Goulstonian Lectures

ON THE

CHEMICAL PATHOLOGY OF DIPHTHERIA COMPARED WITH THAT OF ANTHRAX, INFECTIVE ENDOCARDITIS, AND TETANUS.

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LECTURE II.

Examination of the nervous system.—All parts of the nervous system were examined. The motor nerves were cut out with a piece of muscle attached, so as to admit of the examination of the intra-muscular branches. The only method which is of value in the study of peripheral nerve degeneration is staining the fresh nerve with osmic acid, so that the white substance of Schwann is stained black, and counterstaining with carmine to bring out the nuclei and axis cylinder. In all the animals the same changes were found in the nerves, and the following description of the pathological condition refers to specimens taken from the animals as illustrating the points to be referred to.

Motor nerves.—After the motor nerve with the piece of muscle attached has been stained in osmic acid, it is separated from the muscle with its intra-muscular branches as far as possible. When a small intra-muscular nerve is mounted whole as a specimen it is seen that the nerve is stained black with osmic acid, except at certain points just before it divides into branches. At these points the nerve is attenuated and degenerated. This serves as a type of the degeneration in the nerves, and its microscopic characters showed that all the parts near the origin of the nerve were quite normal. When the nerve is teased with needles from the normal part to the end of the small branches, it is found that at the upper part the fibres are normal; a little lower down they show a breaking up of the white substance of Schwann, which is becoming thin and is but little stained by the osmic acid, while lower down still the white substance disappears altogether. This is at the portion of the nerve unstained by osmic acid. Beyond this the white substance again appears, but it is very pale, granular, and broken up; lower down still it regains its dark colour. The primitive sheath of the nerve is intact throughout; the axis cylinder may be intact down to the spot at which the white substance completely disappears, and even through this part, so that here the majority of nerve fibres consist only of axis cylinder and the primitive sheath. Below the point at which the white substance has disappeared the axis cylinder is in many instances broken. When the axis cylinder is ruptured the upper end is often seen bulbous, and both peripheral and central parts become wavy. After such rupture of the axis cylinder the nerve fibre undergoes below the rupture the Wallerian degeneration, the features of which are well known, and consist of a breaking up of the white substance along the whole course of the fibre, the axis cylinder also degenerating, portions becoming isolated. Many of the fibres, however, below the segment of degeneration do not undergo degeneration, showing that the axis cylinder is intact. Another branch of the nerve may show a less degree of change, and a third branch may show the earliest stage of the degeneration, of which I shall speak later. It will be seen that the degeneration affects primarily a portion of the nerve. It is a degeneration of the nerve fibre itself. There is no interstitial change, no increase of nuclei, which, in fact, themselves undergo an atrophy in the most advanced part. The part of the nerve fibre primarily affected is the white substance of Schwann, which breaks up and finally disappears. The axis cylinder itself may be unruptured when the white substance has completely disappeared; but it often becomes ruptured lower down the nerve fibre, which then undergoes below the rupture the Wallerian degeneration. The different branches of the motor nerve itself are affected to a varying degree, so that in an individual motor nerve there are many fibres which can still innervate the muscle, owing to the integrity of the axis cylinder. This is one reason why the condition observed during life is a paresis, and not a paralysis. In the nerve we have just been considering the degeneration is seen right across the nerve; but in many nerves the change affects only a few fibres lying side by side, or a single bunch of fibres. This is well seen in many specimens of the phrenic nerve from these animals, and also in the anterior roots of the spinal nerves. The earliest stage of this change in the motor nerve is the breaking up of the white substance in a portion of the nerve, while the axis cylinder may still be unaffected; so that, in this early degeneration, it is not uncommon to find that the nerve above and below the affected portion is quite normal. In some instances, however, this early segmentation of the white substance is associated with rupture of the axis cylinder. The attenuation of the white substance which follows its breaking up may occur in the middle of an internode; it may also occur near the node. The more minute changes in the nerve fibres may be observed in many specimens, in which the white substance is seen granular and becoming attenuated from without inwards, while the axis cylinder can be traced as a straight line in the centre of the nerve fibre. In the nerve fibres lying by the side of such a fibre the white substance shows similar appearances, but the axis cylinder is wavy and may become attenuated.

Multiple interrupted degeneration.—There may be more than one portion of the nerve affected by the degeneration, and when this is so the whole nerve is liable to degenerate towards the periphery, and presents to the naked eye a nodular or interrupted appearance, the nodules being between the portions of the nerve which were first degenerated. In such a nerve in which there are from three to five degenerated segments, the later stages of the degeneration may be seen. In most of the fibres only a primitive sheath and nuclei are to be seen with a few badly stained droplets of white substance, and here and there a trace of the degenerated axis cylinder. Such is the change in the motor nerves. The muscles to which the nerves go are also degenerated, this degeneration being proportional to the degree of nerve change. If the nerve is completely degenerated, the muscle fibres show an advanced fatty degeneration in minute granules, staining black with osmic acid. When the degeneration is less, fatty fibres are found mixed with normal ones, or only parts of fibres may be fatty, and when the nerve change is only slight there may be only longitudinal striation of a few fibres, or, indeed, the muscle may appear normal. The very partial fatty degeneration of the muscle is evidently dependent on the fact that the axis cylinders are in many instances intact. The heart muscle is, however, in all these cases in an advanced degree of fatty degeneration. On what this cardiac degeneration depends it is difficult to say. I have not found any degeneration in the vagus nerve. It possibly depends on the altered condition of the blood which has been already described, or, indeed, the diphtheria albumoses may have a special action on the heart.

Sensory nerves.—The sensory nerves are affected in a manner similar to the motor. Sensory nerves in any part of the body may show one or more degenerated portions. In one case the long saphenous nerve near the knee showed five degenerated portions, which give the nerve a nodular appearance.

Sympathetic nerves.—In one instance the trunk of the cervical sympathetic just above the third ganglion showed a degeneration which went right across the nerve and was of the same character as in the motor nerve, except that here, of course, the axis cylinders are more profoundly affected than in the medullated nerve fibres. On each side of the degenerated portion there was an increase in the number of nuclei. Above it the nerve was normal, below many fibres were degenerated. From the facts just recorded it is evident that the paresis observed is due to degeneration of the nerves themselves, and that any of the nerve fibres in the body, whether medullated or non-medullated, may be affected. The spinal ganglia, spinal cord, medulla, and brain were in all cases found normal. The distribution of the nerve change may be seen by a description of what was found in one of the animals. In one leg all the motor nerves investigated showed a greater or less degree of degeneration. The change was most marked in the nerves of the sartorius, the vastus, semi-tendinosus, less

marked in those to the semi-membranosus, biceps, gastrocnemius, and soleus. In the long saphenous nerve, a sensory one, there was well-marked degeneration. Transverse sections of the sciatic at the upper part showed that the nerve trunk was normal. At the lower part the whole nerve was teased and was found normal. The fact is clear, therefore, that the degeneration affects the terminals of the motor branches, and not the main trunk. There may be one or two degenerating fibres in the sciatic nerve if the spinal nerve roots supplying it are affected, but in this particular instance the sciatic nerve was normal. Passing to the trunk, still in the same animal, one of the large branches to the psoas muscle showed well-marked degeneration. A cutaneous nerve of the abdomen was found normal, and of three pairs of spinal roots examined, one in the cervical, one in the dorsal, and one in the lumbar region, degeneration was found in only one anterior root in the dorsal region, the remainder of the anterior roots and all the posterior roots being normal; the spinal ganglia were also normal. In the arm nerves the branches of the musculo-spiral to the triceps and to the flexor muscles of the fore-arm showed well-marked degeneration, while the branches of the brachial plexus to the pectoralis and to the biceps showed an early stage of the degeneration. The musculo-spiral examined just above the origin of the branches to the triceps was normal. The phrenic showed degeneration; the recurrent laryngeal also, but the trunk of the vagus in the neck was normal. The cervical sympathetic showed well-marked degeneration at the lower part; while above, it was normal; and branches of the third nerve to the eye muscles showed well-marked degeneration. From this it is seen how widespread is the change in the peripheral nerves, whether cerebral, spinal, or visceral, as the result of the injection into the circulation of so small a dose as 0·1565 gramme (in two doses) in a rabbit weighing 1565 grammes, which is a dose of about two grains and a half in a rabbit weighing 3½ lb.

Microscopical examination of the nerves after single doses of the albumoses.—It has already been stated that in rabbits which have a single large dose, although they show fever for a few days, there is no paralysis. One animal which received 0·084 gramme per kilogramme subcutaneously was killed in 115 days; and another, which had a dose of 0·117 gramme per kilogramme intravenously, was killed in ninety-four days. When killed both were fat and well nourished. On microscopical examination, it was found that in both animals the phrenic nerves and the small branches of the motor nerves showed well-marked degeneration with rupture of a few axis cylinders, but no well-marked Wallerian degeneration below the degenerated segment. The heart was fattily degenerated. A single dose of the poison, therefore, although its effects had apparently passed off during life, was found after death to have left a definite nerve lesion which had not been repaired. These two experiments, with the others previously mentioned, show most clearly that the diphtheria albumoses, although fever producers, are nerve poisons, selecting the peripheral nerves for its action, just as strychnine selects the motor cells of the cord for its action. I take it that with these single doses the injury to the nerves had been effected, and the degeneration was not progressing when the animals were killed; whereas the successive introduction of small doses into the circulation keeps up the action on the nerves, so that a visible affection of motility results. In a case of diphtheria that proved fatal I found in the small branches of the phrenic portions of the nerve degenerated, thus demonstrating what has been known before, that nerve degeneration may be present during the acute disease.

Relation of the nerve degeneration to the changes in the nervous system in diphtheritic palsy in man.—Since Dejérine's[1] work on the subject it has been recognised that the paralysis following diphtheria is due to a parenchymatous degeneration in the peripheral nerves. But both before this period (1878) and after, many observers have described changes in the cells of the anterior cornua of the spinal cord, and some have gone so far as to ascribe all the symptoms to a mild polio-myelitis. The symptoms, however, are not those of an affection of the anterior cornua of the spinal cord, as there is an absence of any special wasting of the affected muscles and of the reaction of degeneration. The changes that have been described as occurring in the cells of the anterior horns (such as fatty degeneration, vacuolation, pigmentation, atrophy) are probably only phenomena added to the change in the peripheral nerves, and the poison which produces a change in these nerves and fatty degeneration of the heart may after a time affect the nutrition of the nerve centres, causing first fatty degeneration, then atrophy of the cells. The great argument in favour of the change being essentially peripheral is the fact that sensation is affected and no changes have been described in the posterior cornua of the cords or in the sensory ganglia. In my experiments the cord and spinal ganglia were quite normal. The nature of the nerve change observed in the experiments with the diphtheria albumoses was first described by Gombault[2] as the result of chronic poisoning by lead in guinea-pigs. He called the change "*névrite segmentaire péri-axile*," or a neuritis affecting the nerve fibre around the axis cylinder. His animals showed no paralysis, and he left them alive six months or longer; so that, as his figures show, he had the appearances both of degeneration and of restoration in the nerve fibres. It is clear, from the changes observed in the nerves following the injection of diphtheria albumoses, that the condition is one of simple degeneration, affecting first of all the white substance of Schwann, which breaks up and finally disappears; then the axis cylinder, which is attenuated, and finally ruptured in some fibres, so that below this ruptured axis cylinder the fibre undergoes the Wallerian degeneration and the muscle fibre becomes fatty. Many of the fibres which show a degenerated white substance of Schwann do not show a ruptured axis; and this, combined with the fact that the small branches of the motor nerve are affected to a varying degree, and that the motor nerves of the body are not all in the same degree of degeneration at the same period, demonstrates why diphtheritic palsy is not a complete, but only a partial paralysis. In the degenerated nerves in human diphtheritic palsy an increase of nuclei of the nerve fibres has been described, and also nodular swellings on the nerves formed by cellular elements.[3] These changes probably only indicate an attempt at repair of the nerve; they are not met with in the cases of simple nerve degeneration seen in the artificially produced diphtheritic palsy. Meyer, who very thoroughly examined a case of diphtheritic palsy in man, gives figures which show quite clearly that the change in the peripheral nerves is of the same nature as that which I have described as occurring in the experimental rabbits. He discusses the nature of this change and refers to Gombault's work, but laid a great deal too much stress on the nodules which occur on the nerves, and which are, as I have shown, the intervals between the degenerated portions.

Action of the organic acid.—When the organic acid found in diphtheria is injected in watery solution into the circulation of rabbits, it produces a moderate degree of fever, which may last one or three days, or may be extremely slight, but nothing further happens to the animal. It may waste a little, but it does not get paralysed, even after a single dose of 0·155 gramme per kilogramme of body weight. Similarly two successive doses equal to 0·095 gramme per kilogramme produce only slight fever on the days of inoculation, but otherwise no effect; no paralysis in twenty-four days. This is a dose of the albumoses sufficient to produce a definite palsy. The animal was killed on the twenty-fourth day. The heart's blood coagulated in a normal manner, and all the internal organs of the body were normal in appearance. On a microscopical examination, however, it was found that the heart showed well-marked fatty degeneration, although not to such a great extent as in the experiments with the diphtheria albumoses. There were a few fatty fibres in the diaphragm, but the parts of the vastus, semi-membranosus, and gastrocnemius examined were quite normal. The phrenic nerve was examined in its upper half and found normal, while the nerves to the semi-membranosus, the vastus, and the gastrocnemius all showed the different stages of the characteristic degeneration already described. The organic acid, therefore, found in the bodies of diphtheria patients is, like the albumoses, a nerve poison, capable of producing the same anatomical change in the nerves. One animal which received a single dose of the organic acid equal to 0·043 gramme per kilogramme of body weight showed well-marked fever, but no paralysis. It was killed in 119 days. It was fat and well nourished,

[1] Sur la Paralysie Diphthéritique: Archives de Physiologie, 1878.

[2] Archives de Neurologie, 1880-1881, p. 11.

[3] Meyer: Virchow's Archiv, vol. lxxxv., 1881, p. 181, &c.

but showed early fatty degeneration of the heart and diaphragm, and well-marked degeneration in the phrenic nerve. One animal received intravenously a very large dose of the acid on two successive days, the total dose being equal to 0·32 gramme per kilogramme of body weight. No fever, paralysis, or loss of weight ensued; and as the dose given was more than twice the fatal dose of the albumoses, the experiment shows what slightly poisonous properties are possessed by the organic acid. Although, therefore, this organic acid is not nearly so toxic as the albumoses, it has the same action in producing a nerve degeneration. It is not surprising that both the toxic bodies found in a specific disorder should have a similar action; it would, indeed, be more surprising if their physiological effects were different. Having considered the chemistry and physiological action of the toxic bodies present in the bodies of patients dead of diphtheria, we will now discuss the chemical composition of the diphtheritic membrane.

Diphtheritic membrane.—The chemical examination of the diphtheritic membrane presented some difficulty, owing to the small quantity of material obtainable. Membrane removed during life with clean forceps, or a cast of the trachea coughed up after tracheotomy, was placed directly into absolute alcohol, partly to preserve it and partly to kill any micro-organisms present. It was, after a varying time, removed from the alcohol and extracted with sterile 10 per cent. NaCl solution. The membrane formed a gelatinous, mucoid-looking mass in the salt solution, and as this would not filter it was largely diluted and passed through a Chamberland's filter. The filtrate was dialysed till all the salt was removed, concentrated at a low temperature, and precipitated by alcohol. The precipitate, which consisted only of proteid matter, was used for experiment. Without going into the chemical details, the membrane consists of the following proteids. One almost insoluble in saline solutions at the ordinary temperature, which is the fibrin of the membrane; others extracted with saline solution, and consisting of a large quantity of hetero-albumose, which is precipitated by dialysis; and two other albumoses in traces—namely, proto- and deutero albumose. The presence of these bodies shows that the membrane is in process of digestion, hetero-albumose being the first product from the fibrin, proto- and deutero-albumose the final products. Practically, nothing is extracted from the membrane by alcohol; the acid body found in the tissues is present, but only in minute quantities.

Physiological action.—The extract of the membrane which was used for inoculation was whitish yellow, not quite soluble in distilled water, and slightly alkaline. It consisted solely of proteid, a mere trace of hetero-albumose, with traces of proto- and deutero-albumose. Thirty milligrammes were injected into a rabbit weighing 560 grammes, which is equal to a dose of 53 milligrammes per kilogramme of body weight. The first result of the injection was fever, high on the first day, less on the second day, but present also on the fifth day, after which the temperature was normal. Weakness of the hind legs appeared on the first day; on the second day the right hind leg was more paretic than the left; on the third day it was the same, and had lost 30 grammes in weight; on the fourth day the left hind leg was more paretic than the right, and on the fifth day this condition was increased, the leg being held in slight abduction. From this time onward the animal did not jump except on rare occasions, but dragged one leg after the other. The condition remained practically the same till the thirteenth day, when it became ill in a manner similar to that described in the previous animals. The hind legs, although kept extended, were not completely paralysed; flexion was still possible if the legs were mechanically semi-flexed. The fore legs were paretic; the breathing was extremely rapid, and the temperature varied between 96·2° and 96·8°. The animal died during the night. The post-mortem examination showed the blood coagulated in some parts; but when the uncoagulated blood was removed it was found slow in coagulating. As regards the rest of the post-mortem examination, the results were precisely similar to the condition described in the other animals. Micro-organisms were absent from the body, and there was the same degeneration of the peripheral nerves, of the skeletal muscles and of the heart, and the same integrity of the central nervous system as has been already fully described. This result is important, as it shows that in the diphtheritic membrane there exists a poison associated with the proteid and precipitated by alcohol, which produces exactly the same result as the albumoses found in the blood and spleen of diphtheria patients. But it is a poison much more virulent, since a single small dose produces a result which only multiple doses of the albumoses can effect. A single small dose of the albumoses will not produce the progressive paresis observed in this case. For example, a dose of 0·123 gramme of diphtheria albumoses in a rabbit weighing 1050 grammes, which is twice the dose per kilogramme in the animal under consideration, produced only moderate fever, and nothing else. Also, at the same time that this experiment with the extract of diphtheritic membrane was done, an animal was injected with three times the dose of albumoses on three successive occasions—namely, 0·157 gramme per kilogramme in all; and yet the nerve lesions were as well marked in the animal which had the diphtheritic membrane extract as in that which had the albumoses, and death occurred in about the same time—viz., fourteen days. Similarly one of the animals that had nearly twice the dose—namely, 0·83 gramme of albumoses in two successive doses,—although it became paralysed, recovered to a great extent, and lived over ten weeks. The toxic effect of the extract of the diphtheritic membrane cannot, therefore, be ascribed to the mere presence of a small amount of albumoses. There is something else which is in all probability of a ferment nature. This dialysed saline extract of diphtheritic membrane also possesses a different local action from that of the albumoses. It may produce simply œdema which will pass off, but in one instance 12 milligrammes injected under the skin of a guinea-pig weighing 710 grammes produced a fever during the first two days of the experiment; the fever subsided on the third day and death occurred on the sixth day. Nothing was found in the body except, at the site of inoculation, a greyish-yellow sloughy-looking area containing no pus, and about half an inch long. The poison had produced a local necrosis of the tissue. These results bring my own work into touch with what has already been done on the chemical products of the bacillus diphtheriæ, or the so-called "Klebs-Löffler bacillus."

Bacillus diphtheriæ.—I do not intend to go fully into the history of the diphtheria bacillus. Suffice it to say it was first recognised by Klebs, first isolated in pure growth by Löffler, and that Roux and Yersin were the first to show that when introduced into the circulation of a rabbit this bacillus produced a paralysis which is progressive and which is, from the description given, of the same nature as that I have already brought before you. Roux and Yersin's results were confirmed by Brieger and Fraenkel. All observers are agreed that the bacillus diphtheriæ is limited to the superficial layers of the membrane, and does not distribute itself over the body. It is not found in the blood or in any of the organs. Similarly, even when subcutaneously inoculated, although it kills the animal, yet its growth is limited to the site of inoculation. This fact, taken with that established by the brilliant researches of Roux and Yersin—namely, that the bacillus produces paralysis—is a very powerful argument that the bacillus diphtheriæ is the *vera causa*, the living contagion, or, as I prefer to call it, the primary infective agent in diphtheria.

Chemical poison isolated by Roux and Yersin.—The chemical poison isolated by Roux and Yersin was of a very virulent nature. They grew the bacillus in veal peptone broth—that is, using peptone as a food for the organism. Such a culture medium is unsuitable for obtaining the products of a pathogenous organism, because it is unlike any liquid medium that exists in the body, and the proteid bodies which are produced by pathogenous organisms are of the same chemical nature as the peptic albumoses which are used in preparing the culture medium. These facts, however, by no means vitiate Roux and Yersin's results. They found that the broth culture, when freed from bacilli, will kill rabbits after producing paralysis, chiefly affecting the hind legs and the respiration. This poison was precipitated by alcohol and by phosphate of lime, and may be dried, and they calculated that as little as 0·0004 gramme was capable of killing eight guinea-pigs of 400 grammes each, or two rabbits of 3 kilogrammes each. Roux and Yersin's conclusions were that this poison was a ferment (diastase), not only from its acting in such small doses, which had a prolonged effect on the body lasting over days, but also from the fact that heating attenuated the poison and boiling destroyed it. At the end of one of their papers they conclude that: "L'infection n'est produite par un microbe envahissant les tissus, mais par la diffusion dans

l'organisme d'une substance toxique, préparée à la surface d'une muqueuse, pour ainsi dire en dehors du corps." Krieger and Fraenkel repeated Roux and Yersin's experiments and confirmed them. They attempted to determine accurately the chemistry of the diphtheria product, which they called "toxalbumen"; but their chemical analyses and reactions are quite vitiated by the fact that they had peptone in their culture medium. They found, like Roux and Yersin, that the proteid or mixture of proteid precipitated from the culture medium by alcohol acted in very small doses, such as from 5 to 20 milligrammes, when injected into the circulation of an animal; but they made the hasty conclusion that a poison like this diphtheritic product existed in all infectious diseases. I have obtained the products of the bacillus diphtheriæ[4] by using as a culture medium a from 1 to 2 per cent. solution of alkali-albumen in broth prepared from beef, without the addition of peptone. After from twenty-two to thirty-two days it is found that the bacillus has transformed the alkali-albumen into albumoses, which give the reactions of proto- and deutero-albumoses. Small quantities of the organic acid were also obtained. A single large dose of these albumoses, equal to 0·115 gramme per kilogramme of body weight, produced a weakness of the hind limbs on the first day, and to a less extent of the whole body; this passed off, but the rabbit lost weight for ten days or more. It afterwards regained its weight, and when killed on the hundredth day it was fat and well nourished. The microscopical examination revealed the same changes as have been described as following the injection of a single dose of the albumose found in patients dead of diphtheria. The heart showed advanced fatty degeneration, and there was well-marked degeneration of the phrenic nerve and the nerve to the vastus muscle; the only two nerves examined.

Physiological action of multiple doses of the albumoses formed by the bacillus diphtheriæ.—One rabbit received intravenously three doses of the albumoses, equal to 0·111 gramme per kilogramme of body weight. There was well-marked fever, which subsided after the last dose; but beyond this there were no symptoms. The animal was killed on the thirtieth day. The heart, diaphragm, and triceps brachii were found fattily degenerated; while portions of the vastus internus, semi-membranosus, semi-tendinosus, and gastrocnemius were found normal. The phrenic and the nerves to the muscles mentioned (with the exception of that to the semi-tendinosus) show a degeneration precisely similar to that which has been described as following the intravenous injection of the albumoses found in the tissues of diphtheria patients. One or more branches of each of the motor nerves mentioned were found degenerated, but there were only a few ruptured axis cylinders, and no well marked Wallerian degeneration, explaining why no paralysis was observed in the animals during life. A larger dose than the one under consideration produces the same symptoms that follow the injection of the albumoses from diphtheria patients. Thus, an adult rabbit received three doses of the albumoses of the bacillus diphtheriæ (on successive days), equal in all to a dose of 0·169 gramme per kilogramme of body weight. After the first two doses there was high fever; but after the third a slight depression of temperature occurred which lasted two days. Severe watery diarrhœa set in, and lasted until the ninth day. The wasting was very rapid until the twelfth day, when the animal had lost a quarter of its original weight. It afterwards gained slightly in weight. A general weakness of the muscles was present on the fourth day, but no definite paralysis until the eleventh or twelfth day, when the hind legs were distinctly affected, and the animal dragged one leg after the other. The paralysis progressed, but the animal is still alive. The tendon reflexes were normal up to the ninth day, when they began to diminish, and on the seventeenth day they could scarcely be obtained. From these experiments it is clear that—(1) the bacillus diphtheriæ forms, from proteids, products of the same chemical nature as those found in the bodies of patients dead of diphtheria—viz., albumoses and an organic acid; (2) the albumoses formed by the bacillus in artificial cultivations have, in single and multiple doses, the same physiological action as those found in cases of diphtheria in man—this action is the production of fever, of diarrhœa, and of loss of body weight, and of a progressive paralysis of the muscles dependent on a degeneration of the peripheral nerves; (3) the bacillus diphtheriæ is therefore the primary infective agent in diphtheria. The relation of Roux and Yersin's poison to those I have described as present in the bodies of patients suffering from diphtheria is made clear from the fact that a much more virulent poison exists in the diphtheritic membrane than in the body of patients suffering from diphtheria; so that we can bring into a table the chemical pathology of diphtheria into the same line as that of anthrax, and head all the changes by the term "Diphtheria digestion."

[4] Cultures of which were given to me by Dr. Klein.

Diphtheria Digestion.

Primary infective agent.	Secondary infective agent.	Digestive products.	——
Bacillus diphtheriæ	Diphtheria ferment (Roux and Yersin's poison) in membrane	Hetero-albumose Proto-albumose Deutero-albumose Organic acid	In membrane. In body.

It is evident that the primary infective agent in diphtheria is the bacillus diphtheriæ; that this liberates in the membrane a ferment which, when absorbed, digests the proteids of the body forming albumoses and an organic acid. These digested products are the agents in producing death, in causing fever, the depression and the paralysis which follow diphtheria. It is clear from the cases of diphtheria which have been described that the diphtheria products found in the body do not all come direct from the membrane. In Case 1, for example, only small flecks of membrane were found in the larynx, and yet in the body a large quantity of the diphtheria products were discovered. The large amount of albumoses and organic acid found in the spleen also shows that something more than absorption of albumoses is going on. There is no reason to suppose that these albumoses merely accumulate in the spleen, and their specific physiological action shows that they are foreign to the organism. It is more probable that the ferment absorbed from the membrane digests the more or less stagnating proteids in that organ, and we know indeed that the spleen contains a proportionately larger quantity than the blood of bodies formed from proteids, such as uric acid, xanthin, &c.

ABSTRACT OF THE

Milroy Lectures

ON THE

PHYSICAL AND MENTAL CONDITION OF SCHOOL CHILDREN.

Delivered at the Royal College of Physicians, London, March 8th, 10th, 15th, and 17th,

BY FRANCIS WARNER, M.D., F.R.C.P. LOND.,
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LECTURE IV.

The bearing of this inquiry on State medicine, education, and the care of children.—The State becomes heavily burdened by the defectively made portion of the population, which probably tends to accumulate under extensive emigration, which leaves with us the weak, tending to pauperism, starvation, vagrancy, and crime, a large body of "unemployed," and others capable of earning only small and varying wages; the field for recruiting the services is also limited. Were this lower stratum improved, it would pave the way for social amelioration, higher education, better and more valued wage-earning, and less social failure. It must be remembered that these feebly gifted children are confined to no social class, and appear more numerous in the upper grades. The nation collectively is but the aggregate of its components. These observations show the harm that probably arises from exempting the feebly gifted and defective children from all education,

because they are unfitted to compete, even in school, with the average and the normal. It is, then, as important concerning a certain locality or sanitary area to know the average condition of the children as the rate of mortality. Mal-development has been shown, as far as the facts go, to be a potent factor in predisposing to both mental dulness and low nutrition, two evils worth combating. It is not solely for the purpose of attaining a condition of the people with a smaller percentage of badly made heads, palates, ears, noses, or other bodily defects that a strong effort is called for, but that in removing the causes of such defects we may lessen the average of mental feebleness and low nutrition coattendant. The ends which it is desired to attain through State medicine are to improve the average development, nutrition, and potentiality for mental faculty, and thus to lessen crime, pauperism, and social failure by removing causes leading to degeneration among the population.

Correlation, or the relations of physical and nerve signs to low nutrition and mental dulness.—In a table given the number of cases presenting each sign has been shown, and in the more important instances, where the number of cases in which the sign was observed was large enough, or when the intrinsic value or interest of the sign seemed to call for it, the correlation has been added, showing the number of cases presenting the sign who were also registered as presenting "low nutrition," "abnormal nerve signs," "mal-developments," or "mental dulness" respectively. These correlations have been put into the form of percentages in a table. It is not wished to represent the percentages as having an absolute value of correlation to the sign which may be applied to an individual child. The correlation for some signs is probably of little value on account of the small number of cases observed; but it is given as illustrating that each physical or nerve sign has a correlation average with mental dulness, nutrition, &c. When the correlation is on a small number of cases the need of further observations in this direction is indicated. The percentage form is useful, as indicating that some generalizations drawn from large groups of cases apply equally to the individual signs characterising the group. Thus defects in development have a higher correlation with abnormal nerve signs in boys than in girls, but as to nutrition and mental dulness the girls suffer most. As a contribution towards the etiology of defective development I arranged the 3704 development cases seen among 34,991 children according to their distribution in twenty districts; this is shown in Table 6 of the interim report. The percentage of these development cases taken upon the number of children seen in each district respectively is very unequal, being high in the western district of Kensington and Chelsea (12·6 per cent.) and lower in the poorer schools of Islington (7·4 per cent.). This table also gives the percentage distribution of the principal defects registered, taken in two ways: (1) Upon the number of children seen; (2) upon the number of development cases. If such observations are confirmed by further experience, this method of arranging the facts may afford evidence upon the causes in the district tending to produce defects in development, and, possibly, for determining the particular kind of defect most prevalent. Observations of the 1363 development cases in Poor-law schools, which are drawn from certain areas, are similarly given in Table 8, and a table has been prepared for comparison showing conditions of the children in day schools for areas corresponding to the unions. In certain districts the ratio of boys and girls presenting some conditions is not the average. As a preliminary to try to determine the means that may be used to lessen the physical causes of mental dulness I have given a table of the conditions and groups of conditions accompanying it; and have determined, as far as the present work goes, the correlative value of each sign in development and nerve action observed, as well as the distribution of these signs in certain areas or districts and in certain classes of schools, and in the nationalities. The percentage of mental dulness rises from 35 for development cases without nerve signs to 43 when both are present, reaching 44 when the mal-development is accompanied by low nutrition and abnormal nerve signs.

Development cases considered in relation to sex and residence.—If we take 100 boys and 100 girls with defects in development from among the 50,000 children seen, we shall find many of them with abnormal nerve signs, low nutrition, and mentally dull. Following the experience gained, the following estimate may be given, showing the probable results of placing them first in a day school and then in a resident school.

IN THE DAY SCHOOL.

100 boys and 100 girls, with defects in development.

Boys' Side.		Girls' Side.	
Nerve cases	40	Nerve cases	47
Nutrition low	23	Nutrition low	36
Reported dull	38	Reported dull	43
Total	111	Total	126

IN THE RESIDENT SCHOOL.

100 boys and 100 girls, with defects in development.

Boys' Side.		Girls' Side.	
Nerve cases	62	Nerve cases	67
Nutrition low	16	Nutrition low	30
Reported dull	40	Reported dull	44
Total	118	Total	141

It is thus obvious that residence, contrasted with home life and day school, produces marked effects, different among boys and girls. On both sides of the resident school nutrition becomes higher, more markedly with the girls. Nerve signs increase with residence, especially with boys. Mental dulness increases with residence slightly, more so among the girls. The loss and gain from putting 100 boys and 100 girls with defects in development in resident schools may be represented thus: Fewer cases of low nutrition by seven boys, eighteen girls; more cases of abnormal nerve signs by twelve boys, five girls; more cases of mental dulness by two boys, four girls.

Assessment of results of intellectual and physical training in a school, with allowance for the physical condition of the children.—Having obtained a report on the physical condition of the children in a school, we may proceed to estimate the number of dull children and the number with nerve signs to be expected, upon allowance for the material in a school; the estimate is founded upon the conditions seen and the average experience of 50,000 children, the allowance being made upon the development cases and nerve cases, an allowance for low nutrition could be added. There are two results of physical training which characterise it as satisfactory: (1) In cases of defective development to remove or prevent abnormal nerve signs; (2) in children of normal development to prevent, or at least not to produce, nerve signs. Thus, taking the development cases in a school, a high percentage of abnormal nerve signs among them is against the effects of the training; and a high percentage of nerve cases without defects in development suggests that the training is not good. So also in each case a high percentage of mental dulness shows want of adaptation of methods of teaching to the special requirements of the children. A form is given (see report) upon which the principal facts observed in a school may be recorded; from these estimates may be made. We may estimate as dull children: Of development cases with nerve signs—boys 43 per cent., girls 43 per cent.; without nerve signs—boys 33 per cent., girls 39 per cent.; of nerve cases without development defects—boys 37 per cent., girls 41 per cent. We may estimate as the average number of cases with nerve signs: Of the development cases—boys 55 per cent., girls 49 per cent.; as presenting nerve signs without defects in development of the total number of children seen—boys 5 per cent., girls 4 per cent. The work that has already been done, and the report from which extracts are given, afford a considerable amount of evidence to the following propositions: *A.* It is practicable to inspect, report upon, and classify the children seen in a school by means of facts seen and the teacher's report. Evidence of scientific value is thus obtainable of importance to the State, to education, and to philanthropic efforts. *B.* The average child material in a school or district may be determined. The conditions of development and the nerve signs vary much in different schools; as to the latter, observation suggests that adapted methods of training may remove them. *C.* The correlation of visible signs with low nutrition and mental dulness has in many cases been demonstrated. *D.* Ill-made and feeble children tend to gravitate to the Poor-law and certified industrial schools and to the lower standards of day schools. The want of due provision for feeble children in day schools, and in many cases their exemption on medical certificates, tend to throw such cases upon the care of the State, and many become degraded. *E.* Feebly gifted children, the paralysed, and in some cases the epileptic, may in many cases and in limited numbers be educated in day schools if better provision for them is not afforded.

PULSATIONS AND MURMURS IN THE GREAT VEINS OF THE NECK:

THEIR PHYSIOLOGICAL AND CLINICAL SIGNIFICANCE.

By SYDNEY RINGER, M.D., F.R.S.,
AND
HARRINGTON SAINSBURY, M.D., M.R.C.P.

ON the importance of considering separately the two phenomena pulsations and murmurs we have already insisted in a recent paper in THE LANCET.[1] In the same paper we discussed at length the subject of venous pulsation. Stated very briefly, we pointed out that pulsation in the great veins at the root of the neck was a normal occurrence in animals, as demonstrated by physiologists; that it was of probable occurrence as a normal event in man, though for the most part not visible through the integuments in quiet states of the circulation; that, however, in most cases of marked anæmia, especially in women, venous pulsation was very evident at the root of the neck, particularly in the recumbent posture; that such venous pulsation (of anæmia) must be regarded as physiological rather than pathological, since it had not the significance of a distended right side of the heart; that important time relations distinguished the venous pulsation of health and of anæmia from the venous pulsation attending intra-thoracic disease with distended right heart, the former being characterised by its main pulsation being presystolic, the collapse of the vein being systolic, the latter, by the coincidence of its main pulsation, with the ventricular systole. We showed at the same time that intermediate cases must arise in which the determination of the time relations of the pulsations would be difficult, if not impossible, such cases standing on the borderland between health and disease; but we urged that these indeterminable cases did not make it any the less imperative that in each case of venous pulsation we should attempt to discover whether it was a physiological or pathological sign.

We have now to discuss the question of murmurs in the veins of the neck. Without entering at all fully into the subject of venous murmurs in general we may set down a few points of importance. First, venous bruits are to be sought in the larger venous trunks, since the blood currents gathered together in these from extensive tributary areas will be flowing in greater volume and swiftness. Next, such venous trunks being, with few exceptions, contiguous to arterial trunks,[2] we must bear in mind the possibility that a given murmur heard over the course of a vein may really be of arterial origin or that the murmur or murmurs may be both venous and arterial. This last involves the necessity that we should know how to distinguish a venous bruit from an arterial bruit. The following points will help us to do this. The venous bruit has the character variously described by the terms, "rumbling," "purring," "humming," "cooing," or even "whistling," and it is more or less continuous, occupying the greater part or the whole of the cardiac cycle. The arterial bruit, as heard in the vessels of the neck, is a much higher pitched sound, and more of the nature of a whiff or bellows sound, and it is essentially intermittent.[3] This intermittence depends upon the jerky arterial flow, just as the relative continuous character of the venous bruit depends upon its even flow.[4] The venous bruit, especially in the neck, gives the impression of greater superficiality, and in listening for it we should employ comparatively light pressure. It is best to begin with very light pressure, and to increase this gradually till the murmur appears. The vibrations causing the venous bruit are in many cases so superficial and so coarse that the finger laid very lightly on the skin detects them as a thrill. The arterial bruit requires deeper pressure for its detection. These facts accord with the anatomically deeper position of the artery in the neck and the higher tension within this vessel, necessitating more forcible compression. If a murmur at the root of the neck appear on deep pressure only, its arterial origin becomes more probable.

The venous bruit is in general controlled or wholly abolished by distal compression of the vein—i.e., anywhere along the course of the vein above the point of auscultation. The force needful for this is in general light and wholly inadequate to compress the artery. In this procedure we have a means, as Hope says, "of convincing the most sceptical that the seat of the murmur is really in the vein" (p. 105). Listening over the bulb the internal jugular may be compressed in any part of its course above, provided that we obliterate the vessel. Hope has given very fully the precautions requisite in investigating venous bruits, and in particular he has drawn attention to what may be described as the fickleness of the bruit—e.g., at one moment it is heard well, at another it has altered or nearly disappeared. It is probable that this fickleness depends very greatly on slight variations in pressure on the veins as by the stethoscope, or even by the stretch of the skin or muscles due to an altered position of the head and neck.[5] Further, various bruits possess the character, frequently observed, of gradually increasing or swelling during auscultation. Thus when first listened to the bruit may be ill heard, but it gradually gains in loudness; soon, however, reaching a maximum, which it maintains so long as the conditions of pressure and stretching of the vein are maintained. Hope's explanation of this phenomenon is undoubtedly the correct one—viz., that it results from a gathering congestion in the veins distally to the site of compression by the stethoscope.[6] We have very occasionally observed the same thing when attempting to arrest the bruit by pressing with the fingers distally on the vein of the same side of the neck; and we have been forced to conclude that, the pressure not having been quite properly placed, we had narrowed but not obliterated the vein, and so had caused congestion above the seat of pressure. Such congestion would of course mean an increased head of pressure. Certainly such an explanation must account for another and frequent observation which we have made—viz., that pressure on the opposite side of the neck, say the left, in the region of the internal jugular, will cause a gradual swelling out of the bruit heard on the right side. This came out repeatedly and unexpectedly whilst timing the phases of the venous bruit by taking the pulse in the carotid of the opposite side of the neck. Compression of one internal jugular must cause congestion in the veins of the head and neck, and cause the blood to be hurried through the still patent jugular of the opposite side; but the congestion does not reach its maximum at first, and hence the swell in the bruit. We have once or twice had confirmation of this by observing that pressure on one internal jugular would cause the veins of the opposite side of the neck and their pulsations to become more manifest. Lastly, in connexion with this point, it will be noticed that after the breath has been held for a short time the venous bruits receive a sudden increment with the first respirations taken—i.e., with the unloading of the veins congested during the cessation of breathing; this, however, is hardly an example of the swelling of the sound.

We have said that the venous bruit will arise most frequently in the large venous trunks; we may go further, and say that practically it does not arise in the smaller veins, and that any bruit heard peripherally—e.g., in hand or foot or elsewhere away from large trunks—will be arterial, and not venous.[7] The veins in which bruits are audible, are, according to Walshe, the external and internal jugulars on both sides or on one side only, in the latter case most frequently on the right side; the subclavian veins, the femoral, the axillary, the superior cava, and the innominate veins; certain abdominal veins; the pulmonary veins and the superior longitudinal sinus, in particular at its termination in the torcular Herophili.[8] This arrangement is

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[1] Nov. 28th and Dec. 5th, 1891.

[2] The exceptions to the contiguity of venous and arterial trunks are to be found in the intra-cranial venous sinuses. No artery accompanies these, and, accordingly, where in such sinuses a bruit is heard, we have the proof of the sole origin of the murmur in the vein. These sinuses, moreover, are incompressible by the stethoscope, and hence we get the further demonstration that the bruit may be a natural phenomenon, independent of any compression of the vessel in which it is heard.

[3] See Hope: Diseases of the Heart, fourth edition, pp. 125 and 103.

[4] We shall see, however, that intermission or remission becomes a character of venous bruits in veins near the heart.

[5] Even so slight an act as that of swallowing influences, and may momentarily suspend, the bruit; cf. Hope, op. cit., p. 103, and more recently Murray, THE LANCET, vol. ii. 1887, p. 204.

[6] P. 106.

[7] Cf. the bruit heard in anæmia over the palmar arch or over the radial artery, or the bruits met with occasionally in these situations, and elsewhere in aortic regurgitation. These bruits possess markedly the intermittent and whiffing characters of arterial bruits.

[8] Walshe, Diseases of the Heart and Great Vessels, fourth edition, p. 141. Pathologically, continuous murmurs may be heard over the thyroid gland in Graves' disease; they will be venous. Op. cit., p. 443.

in the order of frequency of occurrence of the phenomenon, and it will be observed that the external and internal jugulars of the right side stand first. Of all sites of the venous bruit the right internal jugular at its lower end is the most favoured; this is universally conceded. Certain anatomical facts give the explanation—viz., the dilatation of the lower end of the vein to form the bulb, the continuance by the right innominate of the same course (approximately) as that of the internal jugular, the attachment of certain fasciæ to the vein which prevents the complete collapse of the vein: every treatise on the subject insists on these points. Stated precisely, the best position for listening to the bruit will be found to be just between the two heads of attachment of the sterno mastoid to sternum and clavicle, or, a little outside this, more directly over the clavicular attachment.[9] Is the venous bruit heard in health, and what is the comparative frequency of its occurrence in health and in disease? We do not propose to discuss these questions, for we think the general verdict is fairly definite—viz., that both as to frequency of happening and intensity of degree the venous bruit belongs especially to anæmia, however this anæmia may have been brought about.

(To be concluded.)

TREATMENT OF GOITRE BY IODINE, MERCURY, AND POTASH INJECTIONS, AND RADICAL CURE BY OPERATION.

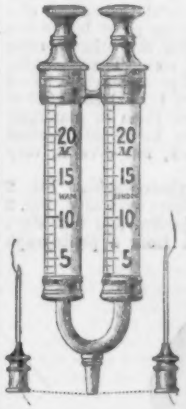
BY GEO. J. O'REILLY, M.K. & Q.C.P.I., L.R.C.S.I., &c.

FOR some years I have been using iodine, mercury, and potash injections for reducing glandular swellings with much success. Amongst them were cases of goitre, and in not one has there been trouble of any kind caused by the injections. The case I am about to report is one of a goitre of an enormous size, estimated to weigh some six pounds or more. The tumour was of thirty-six years' growth, as the patient remembers an enlargement of her neck since she was six years old; she is now in her forty-second year. It gave her much trouble for years, producing great difficulty of breathing, especially when she lay down at night (almost suffocating her), and of late entailing the necessity of having means ready to obtain boiling water, to inhale steam, so that she might get her breath at all; in fact, her life was a misery. She consulted me in September of last year to know if anything could be done to relieve her, when she gave me the above short history, with the addition that for four years she had consulted no one about it, as she was then advised never to have it interfered with in any way, as it would be most dangerous, and that very likely it was a cancerous growth; and that as all previous external remedies had failed, it was better and safer to leave well alone. I examined the growth very carefully, and came to the conclusion that it was an ordinary cystic tumour of the thyroid gland, which was very much enlarged, and I saw nothing to make me think it was of a cancerous nature. I explained to her the treatment she would have to undergo, and expressed myself hopefully that it would give her much relief and make her future condition considerably easier. She willingly consented to put herself in my hands and submit to the treatment I proposed—viz., the injections of certain drugs such as I had used in other similar cases. On Oct. 3rd I made the first injection of a solution of the perchloride of mercury, using a glass syringe with asbestos piston and the finest needle, made for me by Messrs. Maw, Son, and Thompson. (See Fig. 1.) On this occasion I injected in three places where I felt cysts; this I repeated for six days in succession. After that there was a decided improvement in her breathing; she could sleep comfortably without coughing (which before had been incessant and most irritating), nor had she any other discomfort. After this I made injections only twice a week, Tuesdays and Fridays, alternating the mercury solution with one of iodine, a re-sublimated solution, and one of permanganate of potash (specially prepared for me by Messrs. Corbyn and Stacey of Holborn), sometimes injecting two of the solutions in different places on the one occasion. In all, I made some seventy injections, and, with two or three exceptions, there was not even discolouration of the skin. This treatment continued until the end of November, when the tumour was reduced to about one-third of its original size; during this time the patient was in excellent health, and doing with comfort her household duties.

The question now arose as to the radical cure by removing the entire tumour, which was now very consolidated and hard. I explained to her that it was a dangerous operation, as the growth was of such long standing, and as there were sure to be adhesions to all the deep structures of the neck. She evidently was anxious that I should undertake it, and I readily acquiesced with her wishes. I made all my arrangements, and on Dec. 3rd I operated, and removed the entire right lobe of the thyroid gland in its capsule, which weighed over two pounds. The steps of the operation were as follows: I made an incision about six inches and a half in length, reaching from the under jaw to the clavicle, and over the central part of the growth, and carefully dissected back the integuments and adipose tissue, and cut through the platysma and the anterior border of the sterno-mastoid muscle. I then laid bare the anterior surface of the tumour; but finding the wound was not large enough to separate the posterior surface from its deep attachments, I enlarged it obliquely towards the right ear, and this gave me ample space to grasp the tumour in my hand; then with the handle of an ordinary scalpel I was enabled to tear through its attachments. It lay right on the internal carotid artery and jugular vein. There was considerable hæmorrhage from large vessels that had to be torn through; these I torsioned, and where necessary tied with gut. The isthmus was secured and tied in two places, and then divided with blunt-pointed scissors without any loss of blood. The inferior thyroid artery gave me some trouble, as it was so deep down in the supra-clavicular fossa. In order to avoid including the recurrent laryngeal nerve in the ligature, an attempt was made to separate the artery from the other structures attached to the inferior angle of the tumour. In doing so a large vein was torn across. The bleeding for a moment was very great, but the vessel was almost immediately secured. The artery was then tied, cut through, and the tumour removed in its entirety. No bleeding of any moment took place. All oozing points were nipped in a torsion forceps, and the wound swabbed out for some minutes with iodine water, and left open so as to allow the cold air to act as a natural hæmostatic. When all oozing had ceased I brought the parts together, leaving a drainage-tube (about No. 12 catheter size) at the bottom of the cavity.

The operation was done under fairly good antiseptic measures, and the wound dressed with antiseptic (mercurial) gauze and iodoform wool pads. The wound healed up without any trouble. There was slight sanguineous discharge from the drainage-tube, which I removed on the third or fourth day. There was no formation of pus, and I believe the wound would have healed up by first intention had I left out the drainage-tube altogether. The operation from

FIG. 1.



The "double-barreled" syringe, as represented by the woodcut, is so designed that by one insertion of the needle two purposes are effected. If the tumour is cystic, a quantity of the contained fluid can be withdrawn for examination; the other barrel, having been previously filled with the solution for injection, can then be used without removing the needle. I have found in many cases where the cyst was very much distended, that it was advisable, and even necessary, to withdraw some of its contents before introducing the solution, as by so doing there is no pain or fear of producing any inflammatory condition. In cases of suppurating glands it is of supreme importance, as they are gradually emptied, and in consequence no unsightly marks are left.

[9] Parrot (Archives Générales de Médecine, 1867, p. 654): The stethoscope must be moved outwards or inwards till the exact spot has been found.

the first incision until the dressings were completed lasted one hour and twenty minutes. The patient remained under the anæsthetic for two hours after the operation; when she awoke she was slightly sick, but it did not disturb the dressings or cause any bleeding. When I again visited her in the evening she said she was quite comfortable and not in much pain, and she was well able to take the liquid nourishment ordered. The temperature reached 99·6° on the evening of the second day after the operation; it then became normal, and remained so throughout the convalescence. She was able to sit up in bed on the fifth day, and was up on the ninth day. All the stitches were removed on the seventh day, when the wound was practically healed up. With the exception of some opening pills on two occasions, she had no medicine either before or after the operation. She has made a perfect recovery. The wound is now only some two inches and a half long, and there is nothing unsightly to be seen. She is able to perform her usual avocations with greater comfort and in better health than she ever remembers to have enjoyed. I therefore consider that the injections are of immense value in reducing the size of the tumour, and, consequently, in giving much relief at once; and, again, of infinite value in consolidating the growth, so that, in case of operation, it can be easily detached from the surrounding tissues by the fact of the operator being able to grasp it firmly in the hand while separating it from the deeper parts. I may add that the left lobe of the gland was enlarged to about six times its usual size; this was injected several times, and also shared in the general reduction that took place before the operation. It appeared very large after the other portion was removed, but it is now its normal size. The strengths of the solutions of iodine, mercury, and potassium that I used in this, as in all my other cases, vary from 1 in 10,000 to 1 in 500. In no case where I have used them in glandular swellings of the neck or elsewhere have they caused suppuration or left an unseemly mark, not even in very strumous children.

The engravings are taken from photographs. Fig. 2 represents the patient before the injections were used, Fig. 3 after two months' treatment by injection and four days before the operation, and Fig. 4 is from a photograph

FIG. 2.

taken some weeks ago. The marks of the sutures have now entirely gone, and a cicatrix some two inches long is only apparent. I append the pathological notes made for me by Mr. Targett, curator of the Pathological Museum of the Royal College of Surgeons, who has also kindly prepared the tumour as a specimen for that museum.

"*Description of specimen of tumour of thyroid.*—The tumour consists of the right lobe of the thyroid body, together with the attachment of the isthmus. When fresh it weighed thirty-three ounces. Its external surface is lobulated and marked by a deep longitudinal groove, due to the pressure of the sterno mastoid muscle. It is covered by a tough fibrous capsule, which is permeated with numerous widely dilated veins. After preservation in spirit the tumour measures six inches and a half from above downwards, and four inches and a half from side to side, while its greatest thickness is three inches. On section it is seen to be made up of a collection of large cysts, together with a small amount of intervening solid material, and two or three encapsuled adenomata. Of these adenomata the largest is about the size of a Tangerine orange, and the section shows that

FIG. 3.

it has undergone colloid degeneration. Occupying the centre of the preparation is an oval cyst, two inches in its longest diameter, the wall of which has become partly calcified. The remaining cysts are of various sizes, but all smaller than the above. The septa between them are in places so thin that they have become perforated, and thus intercommunication has been established. The cysts contained altogether five ounces of blood-stained fluid. Histological examination of the solid material between the cysts

FIG. 4.

shows the normal structure of the thyroid body somewhat denser than usual, and without colloid change. The walls of the cysts are composed of very dense fibrous tissue, and are devoid of lining membrane. The cysts are probably due to dilatation of follicles, and the layer of cubical epithelium by which they were originally lined has been completely destroyed."

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THE TREATMENT OF TRICHIASIS AND ENTROPION.

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THE unsatisfactory nature of the treatment of these affections may be judged by the large number of operative procedures of one sort or other which the writers of handbooks of diseases of the eye think it necessary to detail. There can be no question about the ingenuity displayed, but as a rule it is not directed to simplicity of method. I find in Swanzy's excellent handbook no less than eight chief operations for trichiasis and organic entropion and four for spastic entropion. In Meyer's book there are about a score of operations described and more mentioned. These books purport to be written chiefly for students and general practitioners, but even to one familiar with ophthalmic surgery it requires attentive reading to grasp all the technicalities. The operations referred to may be objected to on one or more grounds. First, unnecessary destruction of tissue; secondly, complexity and difficulty in execution; and, thirdly, uncertainty. I will not discuss or even name these different operations, but proceed to describe a method which I have practised extensively, and which I think will supplant all other methods. The operation is as follows. First stage: If the upper lid is to be operated on, introduce the smooth handle of a dessertspoon under the lid, to protect the eyeball and support the lid; let the assistant hold it whilst the surgeon steadies the lid on the handle with the left hand, and with the right hand introduces a Graefe's cataract knife at the margin of the lid between the eyelashes and the Meibomian glands, either close to the punctum or at the outer canthus; then push the knife beneath the skin about as far as the orbital margin, and by to-and-fro motion cut along the whole of the lid margin until he has the lid split into two layers, the outer layer containing the skin and eyelashes, the inner layer the cartilage, Meibomian glands, &c. If the skin and hairs can be moved freely upwards, the section has been properly made; if not, blunt-pointed scissors should be passed into the section, and any tissue preventing free motion cut. Second stage: The skin and eyelashes are glided upwards so as to expose about two lines of the cartilage, and are to be secured in their new position as follows. A curved needle with a strong silk iodoformed thread is to be passed through the skin at the middle of the lid about two lines from the eyelashes, then through the cartilage, emerging on to the conjunctival surface about four lines from the margin, and then the needle is to be passed back again through the cartilage and skin, coming out a line or so from the original point of entry on the same horizontal line. A thread is then passed in the same way near the outer and inner canthus respectively. The skin layer and the cartilaginous layer of the lid are now secured by three loops of thread in such a way that the lashes must be displaced upwards far from the eye. Each thread is tied with moderate tightness over a tiny roll of lint or cotton-wool. Adhesion of the two layers in the new position quickly takes place. It is evident that at the outer and inner corners of the section the hairs will not be so much deviated as at the centre, and if the surgeon should think there was any special tendency to a turning in of the hairs at these parts he should make a small vertical incision through the skin, and by a suture at each corner elevate the eyelashes to the desired extent. Third stage (grafting): At one time I followed von Milligen's method by taking a graft from the mucous membrane of the lip, but I found that the taking of such a graft was not a very expeditious procedure. I have for a considerable time taken the graft from the back of the ear, and for ease of performance and perfection in result I do not think it could be surpassed. I expose the back surface of the ear, pass a Graefe's knife under the skin for about an inch, then cut out on one side, and separate the attached side by fine scissors. I place the graft on the back of my left hand, and with fine scissors remove all subcutaneous tissue (this can be done quickly); remove any blood with lint soaked in warm boracic acid lotion, and immediately apply the graft to the exposed surface of the tarsal cartilage, previously cleared of all clots, and likewise cleansed with boracic lotion. I may remark that I think solution of perchloride of mercury not desirable in grafting operations because of its coagulating power. I adjust carefully the graft by a probe, and do not proceed to the dressing until it seems to be pretty adherent. Fourth stage (the dressing): Apply a little strip of lint, saturated with warm iodoform and vaseline ointment, over the graft, and on the top of that a piece of lint to cover the whole eyelid, similarly saturated, then dry lint and bandage. Both eyes are bandaged. The patient is put to bed and not disturbed for four days. At the lapse of that time the stitches are removed, but the eye operated on is bandaged for three or four days more. It may be observed that I couple trichiasis and entropion, and write of them as if to be treated by one operation. If the cartilage be thickened or distorted, it is obvious that with such a free exposure of the cartilage the surgeon can do anything with it; he may groove it or pare &c. as surgeons have recommended, but the grooving, paring, &c., would be only a small incident in the general operation, and hardly worth naming as a separate or modified method.

The features of this operation are: 1. That no skin or other tissue is destroyed or removed, save in thickening or distortion of the cartilage. 2. Expedition in performance. 3. Certainty of immediate result, and no liability to relapse. 4. Its applicability to all sorts of trichiasis and organic entropion. I have not described the operation for trichiasis of the lower lid, as there is but slight variation. As to what is called "spastic entropion" of the lower lid in old persons, arising chiefly from relaxation of the skin, I see in the text-books, old and new, several operations described. The trouble, however, may be sufficiently relieved without any operation at all. All that is necessary is to put a little pressure on the lower lid, and that may be conveniently done by a spectacle-frame of such a form as to press on the lower lid, or, if that cannot be found, by putting a ledge on the lower edge of a frame. For this suggestion I am indebted to my brother, Dr. McKeown of Manchester, who has already put it in practice. Patients prefer this simple and effectual method to any operation. When only a few hairs are deviated I see in some books of repute that it is recommended to excise the hairs with the skin. I have never done this, but I have seen cases in which it was done with disastrous results. Even when a few hairs are faulty it is commonly better to operate on the whole lid, as I have described. It seems a more formidable operation, but in the matter of personal appearance it is far superior to the seemingly simple excision. Should I wish to get rid of a few hairs and not to do the complete lid-splitting, I introduce the knife between the faulty hairs and the Meibomian glands, bring the point out through the skin two or three lines from the margin, then cut on till I have passed all the hairs to be dealt with, and cut out on the skin surface. I thus have a little flap which I can evert. I snip out the roots of the faulty hairs, then replace the little flap, and secure it by suture. Neither skin nor margin of the lid is injured.

Belfast, Ireland.

ATTEMPTED POISONING BY CARBOLIC ACID.

BY E. C. KINGSFORD, L.R.C.P.LOND., M.R.C.S.

THE following case of attempted poisoning by carbolic acid is, perhaps, of even greater interest than that reported by Dr. Greenway in THE LANCET of Aug. 29th, 1891, p. 485, in that the acid was not diluted, and that no treatment was attempted till more than seven hours after the "accident."

J. G——, aged thirty-six, was admitted to the Bolton Infirmary at 2 P.M. on Aug. 22nd, 1889, under the care of Mr. G. A. Patrick, with a report that he had poisoned himself with carbolic acid. He was quite unconscious, but rolling about as if in great agony, and breathing in an irregular and spasmodic manner, each expiratory effort being accompanied by a loud bellowing noise; his extremities and surface were cold and bathed in a clammy perspiration, and the pulse could scarcely be felt anywhere. The tongue and inside of the mouth were covered with a thick white slough, and the skin from the right corner of the mouth to the chin was excoriated where some of the fluid had trickled down. Ineffectual attempts were made to force him to swallow

oil &c., and, after a hypodermic injection of apomorphia had failed to act, a soft œsophageal tube was passed in order to empty the stomach; this, however, could not be effected on account of the openings in the tube becoming plugged. About fifteen minutes after the exhibition of the apomorphia, and while the tube was being manipulated, the patient vomited, bringing up about a pint and a half of light-brown, curdy, tenacious material containing lumps of apparently partially digested food. This at the time was supposed to be the remains of a recent meal, and unfortunately was not preserved. Great difficulty was found in soothing the patient and in overcoming the effects of shock; but he eventually made a good recovery, and was able to leave the hospital thirteen days after his admission. The mouth was still somewhat sore, but he could swallow without difficulty. Two months later, when seen at the Quarter Sessions, he was apparently quite free from the effects of the poison. On account of his mental condition he was handed over to the care of his friends, and, as the police have not heard anything of him since, it is to be presumed that he has had no further trouble. The history of the attempt on his life, as received from the man himself and from others, is as follows:—He had been out of work for some time, and for several months had suffered from mental depression and hallucinations, imagining that his dead wife frequently appeared to him, upbraiding him for previous cruelty, although, according to the account of his neighbours, he had always been a good husband. Four months previously to this date he determined to do away with himself, and for this purpose procured three ounces of strong carbolic acid; but, changing his mind, he carefully put it aside for future use. On Aug. 21st, his hallucinations having become more persistent, he decided to take the poison. After a light meal of bread and tea at about 5.30 P.M., he spent the evening and greater part of the night in removing his few belongings, piecemeal, to a friend's house at some distance from his own. This had to be done very warily, on account of the police, who, as he remarked, "might have asked questions." At 5 A.M., having completed this job, he knocked up a friend in order to bid him good-bye. This friend, knowing the man to be a "bit strange in his head," talked soothingly to him, and, having advised him "not to do anything foolish," regaled him with a cup of tea and a slice of bread-and-butter, and, on starting for his work at 5.45 A.M., left him asleep in a chair. Shortly after 6 A.M. the patient awakened and went back to his own house, where he finished his preparations by placing the bottle of poison on a chair, rolling up his coat to act as a cushion, and putting it against the wall close by, and writing his last instructions on a piece of paper which he pinned to his waistcoat. Then, seating himself on the floor so that he could lean against the coat, he "took the cork out of the bottle, put the neck well into his mouth, so as not to burn his lips, and took a good swig." He says he became unconscious almost immediately, but he evidently had time to re-cork the bottle and replace it on the chair, for there it was subsequently found. All this must have occurred at about 6.30 A.M., and the man was not discovered till 1.30 P.M. From inquiries made there is every reason to believe that the bottle originally contained three ounces of the acid, and afterwards there was found in it just short of two ounces. None of it had been spilled on the floor, chair, or on the patient's clothes. The fluid was of the colour of light port wine, quite clear, and of sp. gr. 1065; and I was assured by Dr. Stevenson of Guy's Hospital, who kindly examined it for me, that it consisted of the strong liquefied acid.

In this case it seems to be quite possible—nay, probable—that while the man was making his elaborate destructive preparations the stomach, by reflex action, was equally employed on a protective process—viz., pouring out a large supply of mucus, on which, when ingested, the acid chiefly acted. If this were not so, how can the thick, tenacious contents of the stomach be accounted for? Both the patient and his friend agreed that he had eaten only one slice of bread-and-butter in the morning, and the last food he had had before this was some bread twelve hours previously.

Surbiton.

THE MAGISTRACY (IRELAND).—On the recommendation of the Lord-Lieutenant of the county the Right Hon. the Lord Chancellor has appointed W. Langford Symes, Esq., L.R.C.P. &c., of Kiltegan, to the Commission of the Peace for the county of Wicklow.

A CASE OF STRANGULATED FEMORAL AND OBTURATOR HERNIÆ.

BY A. R. ANDERSON, F.R.C.S.,
SURGEON TO THE GENERAL HOSPITAL, NOTTINGHAM.

JANE S——, aged seventy-five, was admitted into the Nottingham General Hospital on Oct. 3rd, 1891, for a strangulated hernia in the left groin. She stated that for many years she had noticed a small lump, the size of a nut, in the groin, which had given her no trouble until two days before admission, when it had suddenly got much larger, and she thereupon began to complain of pain in the part, accompanied by vomiting and constipation. There had been no action of the bowels since the descent took place, but she said that she had been able to pass flatus. On examination of the left groin a lump the size of an orange was seen, which had evidently come through the saphenous opening. It was rounded in outline, firm, and very tender on manipulation. There was no impulse on coughing, and dulness on percussion. She was admitted at 6 P.M., and at 7.30 I saw her and operated, after failure of the taxis, under chloroform. On opening the sac a lump of omentum was found projecting through the saphenous opening, the neck of which was very tightly constricted at Gimbernat's ligament. This was notched, and the omentum drawn down and examined. It did not appear to be much damaged, and was reduced. No bowel was found. I then passed a finger through the inner ring and felt around it, satisfying myself that all was clear. The wound was closed with horsehair sutures and a dressing of mercurial wool applied. The operation lasted only a few minutes. The next morning (Oct. 4th) she had passed a fairly good night, and seemed decidedly better. She had been sick twice shortly after the operation, the vomited matter consisting simply of the contents of the stomach. I attributed the vomiting to the chloroform. An enema was then ordered, which was followed by an evacuation of fæces. On the following morning, however, she became rather suddenly worse and began rapidly to go down hill, unmistakable fæcal vomiting appeared, and on seeing her some hours later she presented the aspect of a person in the later stages of an unrelieved strangulated hernia. At this time she passed another motion. As it now appeared evident from the presence of these symptoms that there must be some unrelieved obstruction, I decided to explore further. Nothing could be discovered on examination of the groin, and being satisfied that there was nothing in the femoral canal, and failing to find a hernia elsewhere, I decided to open the abdomen. A median incision three inches and a half long was made in the linea alba below the umbilicus, and on introducing the hand I found that a knuckle of small intestine (ileum) had passed through the left obturator foramen and was there strangulated. The portion of bowel included was very tightly nipped by the sharp edge of the obturator membrane, beneath which the edge of a hernia knife was passed after considerable difficulty, and the membrane notched in a downward direction. The bowel was gangrenous, and gave way on being withdrawn. An examination of the parts outside the abdomen showed that the whole of the circumference of the bowel had not been included, and that the gangrene had involved a portion of the intestine, measuring two inches in length, but implicating only two-thirds of its circumference. A pair of Makins' clamps were at once applied, which effectually prevented any escape of the intestinal contents, the length of gangrenous bowel excised, and the divided ends joined together by means of Lembert sutures. On removal of the clamps the intestinal contents flowed freely past the line of suture and demonstrated its security. The abdominal wound was closed in the usual way. The patient, who was in a very unsatisfactory state at the time of the operation, did not rally, and died some hours afterwards. On a subsequent examination of the parts there was no leakage whatever from the sutured bowel, the opening in the obturator membrane admitted the forefinger, the femoral canal was empty, and there was nothing wrong with the lump of omentum which had been reduced. The obturator vessels and nerve passed through the foramen above and external to the sac.

This case appears to be worth recording on account of its clinical importance, as well as of the extreme rarity of the

simultaneous occurrence of these two herniæ, and a critical examination of the symptoms presented may be of interest. They were: sudden and great increase in size of a small irreducible hernia in the left groin, followed at once by pain in the part, vomiting, and constipation. 1. With respect to the swelling, this entirely disappeared after the reduction of the femoral epiplocele. At the time of the second operation the parts about the saphenous opening were carefully inspected, and no swelling of any kind existed at or about the situation in which an obturator hernia is known to protrude; indeed, as was afterwards shown, the knuckle of gut involved in the obturator foramen was too small to produce this sign. 2. The question as to whether the special pain existed along the course of the obturator nerve that is usually met with in these cases must remain doubtful. No inquiry was made as to such pain (the disease not being suspected), and no complaint was made of it. It is reasonable to suppose, however, that, if present, it was not severe, as she complained greatly on admission of pain referred to the region of the groin and nowhere else, and the morning after the first operation expressed herself as being free from pain. 3. With regard to the vomiting, no accurate information could be obtained about this symptom prior to admission beyond the fact that it had occurred, and the patient was not sick in the interval which elapsed between her admission into the hospital and the time of the first operation. It should also be noted that the vomiting which occurred twice after this operation, and which I attributed to the effects of the anæsthetic, was absolutely non-feculent in character, consisting simply of the contents of the stomach, feculent vomiting appearing suddenly on the second day after operation. 4. The constipation, it will be remembered, was not absolute. Although there had not been any movement of the bowels for forty-eight hours previous to admission, yet she had during that time passed flatus, and continued to do so on the day after operation. At this time her bowels were well moved after an enema, and there was another slight motion on the following day. All these anomalous symptoms, which made me doubt at the time that there was anything more than the severely constricted epiplocele to account for them, were probably caused by the fact that a portion of the calibre of the intestine had escaped strangulation and had allowed flatus and some liquid fæces to pass. Death resulted in this case from the inability of an aged and feeble person to bear the shock of the second operation; excepting for this, no reason was disclosed at the post-mortem examination why she should not have recovered. The fact that obturator herniæ usually occur in elderly persons, especially females, together with the difficulties in diagnosis, even when the case is not complicated, and the frequent delay in operating that consequently ensues, no doubt accounts for the very high mortality that has hitherto prevailed in such cases.

Nottingham.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CHOREA FOLLOWING INFLUENZA IN A WOMAN AGED SIXTY-FIVE.

BY P. A. MCCARTHY, M.D., M.CH., M.A.O. (R.U.I.), &c.

ON Jan. 26th I was called in to see Mrs. A. C——, aged sixty-five. She had been feeling unwell for some time previously, but had taken to bed only the day before. The usual symptoms of influenza were present, together with a slight cough. Temperature 101° F. In a few days the cough had gone and the temperature fallen to normal, but the prostration was very great and anorexia almost complete. It was with difficulty she could be persuaded to take nourishment of any kind; she "felt that she did not want it," and "everything had the same salty taste." She complained also of nausea and a burning pain in the pit of the stomach, and suffered a good deal from flatulence. To relieve these symptoms pepsine was given, effervescing draughts, ice, and mixtures containing soda, bismuth, hydrocyanic acid, &c., followed by quinine, strychnine, bark, dialysed iron, brandy, and champagne, but with very little benefit. For two weeks she continued in much the same condition, now showing slight improvement, again relapsing, but making no decided progress towards recovery. On Feb. 23rd choreic movements began in the fingers of the right hand, and three days later all the muscles of the arm and face had become involved. The arm was jerked about so violently that it was found necessary to secure it, the skin being broken in places. Her speech was much impaired, and she had to be fed from a feeding cup. Liquor arsenicalis was given, and she was put on milk, liquor carnis, peptonoids, peptonised cocoa and milk, brandy, and port wine. On the morning of March 6th the movements had entirely ceased, leaving the patient in a very exhausted condition, from which she never rallied; she grew gradually weaker, and died on March 11th. In her youth she had an attack of diphtheria, followed by paralysis of the right arm, lasting some months.

Kempsey, Worcester.

PHLEGMASIA DOLENS FOLLOWING INFLUENZA.

BY C. ALEX. DUCKET, M.R.C.S.

ALTHOUGH phlegmasia dolens is a disease which occurs chiefly in the puerperal state, I have seen it lately in three cases of influenza, all of which bore striking resemblance to each other. Instead of the temperature going down, as is usual in an uncomplicated case, it kept up. There was great pain in the groin and upper part of the thigh, quickly followed by swelling, which extended over the whole limb. This rapidly increased, so that in two days the limb was twice as large as the non-affected one. The swelling was of a very solid nature, and did not pit upon pressure. There was not the least alteration by raising the leg. This state of things lasted for ten days, under the usual treatment, when the pain grew less, the limb softer, and the temperature fell to 99·8°. All three patients were affected in the left lower extremity, and were very restless. The obstructed vessels could be easily felt as hard cords. I may mention that the above patients were not subject to varicose veins, and, although married women with families, were never before troubled with their legs. The frequency of phlegmasia dolens in the lying-in period is attributed to the combination of slowness of the circulation with a varicose condition of the veins *plus* an extra amount of fibrin in the blood. May we not have exactly such a state of things during influenza?

Lavenham, Suffolk.

SOME CASES OF ABNORMAL SWEATING.

BY L. FRAZER-NASH, L.R.C.P. & S.ED.

CASE 1.—Amongst the patients who were attending the Hyderabad Dispensary in 1888 was a Hindu boy, upon whose skin was a crystalline deposit, more or less generally distributed, which suggested the idea that the boy had bathed in a saturated solution of some salt that had been allowed to dry on him. The crystals were glistening and amorphous to the naked eye, and required some friction to be removed dry. The family history was unimportant. The boy, who was ten years old, had suffered more or less since babyhood from malaria, and for four or five years his mother had noticed these white sweats, which, she said, occurred while he slept. I never found his skin other than dry, although he attended the dispensary for debility during some of the hottest months. The efflorescence was most marked on the legs, and notably over the shins; the crystals were also largely deposited on the back. About the head the crystals were coarser than elsewhere. The boy was thin, with flabby muscles, and his back was covered with rather long downy hair. The heart and lungs were apparently healthy. The urine, which I examined on one occasion only when the efflorescence was fully marked, was acid, sp. gr. 1008; no change on boiling. The microscope showed the usual phosphates. I tried to examine the skin deposit under the microscope, but failed to get more than epithelial scales and amorphous crystals. I regret to say I did not test the latter chemically, and, owing to press of work, was not able to take notes as fully as I could have wished. After a

course of tonics the white deposit on the skin became less and less marked, and in two or three months it had practically disappeared.

CASE 2.—This patient was sister to the above, a healthy child, about seven years of age. The deposit was well marked under her chin, and less so about her back. The mother said she always had it in the hot months.

CASE 3.—A Mohammedan boy aged thirteen had white efflorescence on his chest, back, forehead, and thighs. For two or three days he had had very slight bronchitis, and since then only had noticed the white sweats. I saw him only once or twice.

CASE 4.—A Mohammedan boy aged eight, suffering from sores on his abdomen, the result of contact with mango juice. Since he had had these abrasions only had the white sweats been noticed. The deposit was well marked on his face, chest, and back. He had no cough. I saw him only on that one occasion.

After this I noticed several cases at intervals, with a slightly marked efflorescence, generally in boys, always in natives. There was no irritation noticeable from the salts deposited on the skin, no sign of prickly heat or erythema. There was nothing abnormal about the quantity of urine passed. The food usually taken was milk, fruit, coarse bread, and water. The clothing worn is very slight, and a large surface of the body was exposed to the sun and air.

Haverstock-hill, N.W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

METROPOLITAN HOSPITAL.

CASE OF ENTERIC FEVER, WITH PULMONARY COMPLICATIONS, FOLLOWED BY LARYNGEAL DIPHTHERIA; TRACHEOTOMY; DEATH; NECROPSY.

(Under the care of Dr. HOWARD TOOTH.)

THERE are very good grounds for presuming that this is one of the rare cases in which a membranous or diphtheritic laryngitis complicates enteric fever. The aspect of the patient, character of the temperature chart, enlargement of the spleen, the papular exanthem and characteristic diarrhœa rendered the diagnosis of typhoid fever almost certain during life, while the ulceration in the cæcum and the enlargement of Peyer's patches and of the mesenteric glands (found post mortem) confirmed it. The diagnosis of diphtheria could not be made with certainty during life, though the albuminous urine and the enlargement of the glands in the neck, which came on after tracheotomy, rendered it probable. The membrane found post mortem was indistinguishable from that of diphtheritic laryngitis. For the notes of the case we are indebted to Mr. R. F. Standage, house physician.

T. T——, aged five, was admitted on Dec. 21st, 1891, with high fever and pain in the abdomen. For three days before admission he had been restless, had shivered, lost his appetite, and had been sleepless. There had been no diarrhœa. On admission his face was flushed, the skin hot and dry. Temperature 101·8°; pulse 120; respiration 20. There was slight tenderness in the right iliac fossa on gentle pressure. No tympanites. No spots on the abdomen. Spleen not palpable; dulness not increased. Tongue moist; furred down the centre, red at the tip and the edges. Heart and lungs normal.

Dec. 22nd.—Signs the same. Morning temperature 101·2°, normal in the evening. Has passed one rather light-coloured, formed motion. The patient is treated as a case of enteric fever; is on liquid diet. Quinine (two grains) and salol (five grains) powders thrice daily, and three minims of liquor sodæ chlorinatæ also three times a day.

23rd.—Gurgling and pain in right iliac fossa. Some papular rose-coloured spots on abdomen. Morning temperature 100°, evening 103·8°. Passed a liquid, light-coloured stool not containing any shreds or blood.

25th.—Morning temperature 101·4°, evening 104°. Sponging (tepid) ordered when the temperature reaches 104°. Pulse 132, regular, markedly dicrotic. Abdominal pain more marked. Spleen distinctly felt. No fresh spots. Passed two liquid "yellow-ochre" stools. Tongue furred in centre; moist. Breath of a sweetish offensive odour (? result of salol).

26th.—Morning temperature 103·2°, evening 103°; pulse 132 (dicrotic). Tenderness in epigastrium and right hypochondrium. Snoring rhonchi heard at both bases behind. Crepitant râles over the front of the chest.

28th.—Motions still loose and light coloured. No hæmorrhage. Rhonchi and bubbling and crackling râles over the whole of the chest. Heart sounds distinct. Morning temperature 101°, evening 105·4°.

29th.—Considerable diarrhœa. No hæmorrhage. Sick during the night. Delirious. Bronchial breathing at the right base behind. Respiration 40 (shallow). Urine: sp. gr. 1020, no albumen.

31st.—Spots on abdomen faded. Dulness at the base of the right lung behind. Loud bronchial breathing. The child continued in much the same condition till Jan. 4th, when the note says: "Better. Temperature 99·2°. Signs in chest improved. Less crackling and rhonchus."

Jan. 4th, 1892.—No bronchial breathing. Note impaired; not dull at right base.

5th.—Developed laryngeal cough, stridor, and aphonia.

7th.—Has been treated for laryngitis with a steam-kettle and tent; fomentations to the neck. Also, later, leeches were applied, but without improvement. During last night the stridor became very marked, cyanosis supervened, and there was marked recession of the chest walls. Urine: cloud of albumen. No membrane on the fauces. No enlargement of glands at the angle of the jaw. Air does not enter well at the bases of the lungs. 3 P.M.: Stridor and recession increased. Emetics administered. No improvement. 7.30 P.M.: Colour waxy pale. Very little air entering the lungs. 7.45 P.M: Tracheotomy performed below the isthmus. No membrane coughed or feathered up. Very little bleeding. Symptoms almost immediately relieved.

8th.—Slept well. Fed by nasal tube. Breathes easily. Coughs occasionally, but has not coughed up any membrane. Temperature 100·6°.

9th.—Troubled with cough in the night. No membrane brought up. Considerable swelling of glands in the neck. Urine albuminous.

10th.—Bad attack of dyspnœa at 6.30 A.M. Several small pieces of membrane removed by feathering, apparently from low down in the trachea. Pulse 160. 5 P.M.: Earthy colour. Pulse 180. 10 P.M.: Colour worse. Temperature 104°; pulse 180; respiration 68.

11th.—Tube left out at 10.45 A.M. Can breathe through larynx, but not completely. Patient got rapidly more collapsed, rallied in the evening, but, again collapsing, died at midnight.

At the post-mortem examination, made by Dr. C. F. Marshall, the larynx and trachea were found to be lined with diphtheritic membrane. No ulceration of the laryngeal mucous membrane, or necrosis of cartilages. The right lung was completely consolidated with old bronchopneumonia, the left being collapsed and somewhat congested. In the cæcum, close to the ileo-cæcal valve, was a congested Peyer's patch, slightly ulcerated at one spot. Several similarly congested Peyer's patches were found along the ileum, but none of them ulcerated. The mesenteric glands were enlarged, especially those in the mesentery attached to the cæcum. Spleen enlarged to about twice the natural size.

BRADFORD INFIRMARY, YORKS.

A CASE OF ACROMEGALY.

(Under the care of Mr. APPLEYARD.)

IN the following case some of the characteristic signs and symptoms of acromegaly, as described by M. Pierre Marie and others, are wanting. Of these the most noticeable is the absence of enlargement of the lower jaw and of the tongue, and of limitation of the fields of vision. But in nearly all other particulars the case appears to us to resemble very closely other cases of acromegaly. The accompanying engravings, taken from photographs, give a fair representation of this patient's appearance. For the

notes of the case we are indebted to Dr. J. Lacy Firth, house surgeon.

H. L——, an unmarried weaver, aged forty-two, presented herself in the out-patient department of the Bradford Infirmary on Oct. 31st, 1891. She complained of pain in both ankles, rendering walking difficult, and of cessation of menstruation. She has had the pains in the ankles, which are of an aching character, for twelve months. They are always worse at the end of a day's work; so that, although she is able to walk to the mill in the morning, at night when her work is done she has to take the tram to her home, which is five minutes' walk distant. She ceased to menstruate twenty years ago, and during the whole of that period has only had catamenial discharge once—viz., ten or twelve years ago,—and on that occasion the discharge lasted only for one day and was inconsiderable in quantity. When menstruation ceased she began to suffer from severe headache. At first this was frontal. She had it almost every day. It was not associated with vomiting, and in all other ways she felt quite well at this time. The headache was always more severe at the menstrual epochs, and at those times she also felt heavy and drowsy. After the lapse of four or five years the headaches ceased to be frontal and became occipital, and about this time she became an out-patient at the Bradford Infirmary. She attended for twelve months, and the headaches gradually ceased, and she has not suffered from them since. At this time she had no abnormal sensations in the hands or feet, and she did not think anything of their size, which was less than at the present time. The patient first noticed the increase in size of her hands and feet about ten years ago. Her attention was drawn to the size of her feet because she was unable to obtain ready-made boots large enough to fit them, and since she has always had to get boots made to measure. About the same time she discovered that she could not obtain gloves large enough for her hands, and for this reason has not worn any since. Seven or eight years ago she gave up all sewing because she could not procure a thimble large enough. About this time also (seven or eight years ago) she suffered a good deal from pain in the right shoulder-blade, brought on by her work, and a little later the back began to grow out, and the curvature has gone on increasing since. The patient's face has been altering in appearance during this period. She thinks her nose has become larger and the lower lip, and has noticed the face becoming puffy and swollen. She has had a cough summer and winter for four years, and it has been specially severe the last two winters. Her appetite has been fair and never extraordinary. She has never passed more urine than natural. She has not been troubled with sweating, general or local. She has not suffered from cold extremities. For the last seven or eight years she has not cared to go out at all, because people "looked at her so." She has during the same period noticed alteration in her voice. She has difficulty in pronouncing her words distinctly. The patient never remembers being laid up with illness, excepting when she had measles as a child. Her mother is alive and healthy; her father died at the age of forty-seven in a decline. The patient has lost nine brothers and sisters. All died between three and four years of age, with the exception of one sister, who died of dropsy at thirty-one years of age. No relative was ever affected, to patient's knowledge, with large hands or feet.

Dec. 19th, 1891.—Patient is very pale and old looking. She is 5 ft. ½ in. in height. The conjunctivæ are very pale. She is thin, and the skin on the trunk and limbs is soft, supple, and loose, and there is very little subcutaneous fat, which is especially wanting on the limbs. The temperature varied from 98° to 98·4° F.; once or twice only it reached 99°. Head and face: The skin on the face is natural and fair, except on the nose, where it is coarse, the sebaceous glands being unduly conspicuous, and comedones present. The face is striking from the large size of the nose and the projection of the lower lip. The latter is large and loose, and hangs forwards and downwards. The dry mucous membrane of the lower lip is unduly conspicuous, and is of a ruby-red colour. The eyelids are markedly puffy in appearance, reminding one of Bright's disease, but there is no transparency of the swollen tissue, and it never alters. The face may be described as of rectangular form in the upper two-thirds, the lower third being triangular, owing to the shape of the chin, which is rather pointed. The nose is of large size; it measures from tip to forehead 2⅞ in., and from the cheek to the tip 2 in. There is asymmetry of the face, the nose having a deflection to the right side, the chin to the left. The forehead is wrinkled, and the naso-labial folds are marked. The cheeks are flabby. The circumference of the head at the level of the root of the nose and external occipital protuberance is 23⅝ in. The external ears are natural, with the exception, perhaps, that the tragus projects outwards more than usual. The zygomatic arches are rather conspicuous, and the malar bones. The right temporal region is somewhat bulged. The ocular conjunctiva is sallow. Arcus senilis is slightly marked. The tongue is but slightly, if at all, enlarged. The neck is short; it measures 13½ in. circumferentially in its middle. It is directed forwards. There is no enlargement of the thyroid gland. The thyroid and tracheal cartilages are easily felt, and show no enlargement. The hands are large. The fingers are of cylindrical shape and do not taper. The wrists are obviously enlarged. The circumference of the right hand at the knuckles is 9 in., of the left 8¾ in. The circumference of the forefinger at the second joint is 2⅝ in., at the proximal joint 3¼ in. The skin is very thin and loose, and free from fat on the dorsum of

FIG. 1.

the hand; thicker on the fingers behind. The skin of the palms is loose and thick, and on the ulnar border a mass of skin and subcutaneous tissue can be easily raised from and moved freely upon the subjacent metacarpal bone. When the hand is held straight out with the finger extended the terminal phalanges are invariably found to be slightly flexed. The patient can only fully extend the terminal joint of the left forefinger. She can over-extend the proximal phalangeal and the metacarpo-phalangeal joints. The nails are short and broad, and striated, especially those of the thumbs. The articular extremities of all the phalangeal bones are slightly larger than natural, and the joints are looser. The same remarks apply to the knuckles, and in the latter soft crackling is elicited when free passive movements are made. She can close the hands, bringing the fingers upon the palm fully and naturally. The lower ends of the radii feel large, and, to a less degree, the ulnæ. The skin of the palms is dry. The veins upon the back of the hands and in the lower parts of the forearms are noticeably enlarged. The olecranon processes are somewhat large, and also the condyles, and the latter are more easily felt than ordinarily, owing to the softness of the tissues around. The head of the humerus seems natural. There is a lipoma-like tumour, about the size of a hen's egg, between the spine of the scapula and the

clavicle on the left side. The clavicles upon inspection appear longer than natural; the length is 5½ in. from the sternal to the acromial articulations. Power of grasp in the hands is moderate. Sensation to touch and pain is perfect in the hands and forearms. Lower limbs: The feet are very large. Lying along the outer borders of the feet and upon the inferior and posterior surfaces of the os calcis there are pads of somewhat firm tissue. When the patient is standing this tissue is displaced outwards, and increases the breadth of the soles. The skin on the dorsa is thin and free from deposit. There is marked hallux-valgum in both feet, and the affected joints are larger than natural. There is a tendency to over-extension of the metatarso-phalangeal joints and to unnatural flexion of the distal phalangeal joints. The malleoli are natural and the upper extremities of the tibiæ and fibulæ seem natural in size. The patellæ seem large. The right one measures 3¼ in. across its widest part and the left one 3¼ in. Owing to the softness of the muscles the condyles of the femora can be very easily felt. There is slight lipping of the edges of the trochlear and condylar articular surfaces; there is soft crepitus in the knees on movement. Patient is seen when standing to have genu varum. There is slight varicosity of the internal saphenous veins in the legs. The nails are transversely and longi-

FIG. 2.

tudinally striated. The feet are sometimes found bedewed with sweat, at other times dry. Back and chest: There is very marked kyphosis of the upper two-thirds of the dorsal region of the spine, and it is continued into the lower cervical region. There is slight lumbar lordosis and slight lateral curvature to the right in the upper two-thirds of the dorsal region. The right half of the back is very prominent. The shoulders are thrown forwards somewhat. The sternum is deflected to the right of the middle line. The ensiform cartilage is easily felt, and is perhaps rather longer than natural; it is not prominent. The second intercostal cartilages are very prominent, and especially so at the line of junction with the ribs. The costal cartilages are all prominent at the line of junction with the ribs. The ribs lie posterior in level to the cartilages at the junctions. The elevations formed as above are very similar to rickety beading. The girth of the chest is 34 in. at the level of the axillary folds. The heart sounds and apex beat are normal in character. Pulse 85 to 95, regular. The radial arteries are slightly thickened, and the temporals just visible and slightly tortuous. Respiratory movement of the chest is deficient, and is rather of the nature of a jerk upwards than a true expansion. Percussion reveals hyper-resonance in front, except in the cardiac area, and behind normal resonance, except over the prominence of the right side. The breath sounds are harsh in both subclavicular regions and weak at the bases. There are sonorous rhonchi heard over both sides of the back and a few muffled rales at the bases. The patient's voice is thick and husky always, and monotonous. Abdomen and digestive system: The lower two-thirds of the abdomen are full and prominent, and marked off from the upper third by a transverse furrow, which crosses one inch above the level of the umbilicus. Resonance exists in all parts. No viscus palpable. Liver dulness exists in the sixth and seventh intercostal spaces in the nipple line. Patient's appetite is natural, and the bowels are regular. Genito-urinary system: The urine has been repeatedly examined, and in each instance was normal in character; its specific gravity varies between 1017 and 1020, the colour orange or amber, and it is clear. It yields no reaction with Fehling's solution, and contains no albumen. The quantity passed in the twenty four hours varied within the limits of eighteen and forty-two ounces, minimum and maximum, and was measured nearly every day for three weeks. The external genitalia are normal, and vaginal examination reveals a small cervix with nulliparous os and no abnormality. The distance between the anterior superior iliac spines is 10¾ in., and across the iliac crests, at the widest part, 13½ in. The patient is always in good spirits, and is of a contented disposition. The knee-jerks and plantar reflexes are normal. Her power of hearing is equally good on the two sides, but is much less than natural. She ceases to hear a watch at a distance of eight inches, which other persons hear at a distance of from two to three feet. Vision is unimpaired. There is no trace of optic neuritis. The fields of vision, tested with the finger, reveal no limitation. Perimeter not used.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Rapid Dilatation of Uterus for Hæmorrhage.

AN ordinary meeting was held on March 28th, Dr. De Havilland Hall, Vice-President, in the chair.

Dr. AMAND ROUTH read a paper on Rapid Dilatation of the Uterus for Diagnosis and Treatment in cases of Uterine Hæmorrhage. After discussing the preliminary treatment of cases of uterine hæmorrhage, the importance of exploratory dilatation of the uterus for those cases where no obvious cause existed was urged. Out of the fifty-two cases related, forty-two, or 81 per cent., were found to have a removable intra-uterine condition accounting for the hæmorrhage. As regarded Apostoli's treatment, he considered that, where permitted by the patient, and otherwise practicable, the cervix should be first dilated and the uterine cavity explored. The same proceeding should be also adopted before the alternative operation of oöphorectomy or hysterectomy was entertained, and it was shown that fourteen out of the sixteen fibroid uteri (88 per cent.) were found, after dilatation, to have a removable intra-uterine condition, such as polypus or fungous endometritis, as the immediate cause of the hæmorrhage. If a series of cases set apart for Apostoli's treatment could first have their uteri dilated, and be then tabulated according to whether the fibroids were intramural, submucous, or polypoid, or whether fungous endometritis were present, and the results recorded after the proposed treatment, the class of cases where electricity would do good would soon be known, and the previous dilatation would at the same time enable the operator to ascertain the spot were the current could be applied most advantageously. The details of the dilatation by long-handled metallic bougies were then given, rigid antisepsis being all essential. The fifty-two cases described consisted of 13 placental or membranous retentions, 5 polypi, 2 polypi and fungous endometritis, 2 fibroids without fungous endometritis, 7 fibroids with fungous endometritis, 5 granular endometritis, 5 malignant disease, and in 5 no intra-uterine cause was found. The following conclusions were considered to be proved:—1. That where there was profuse menorrhagia, and more especially where metrorrhagia was also present, without obvious cause, the cavity of the uterus should be explored. 2. That the best way to explore the uterine cavity was to rapidly

dilate the cervix with graduated bougies under anæsthesia. 3. That with rigid antisepsis there was practically no risk, and very rarely any subsequent pyrexia, unless malignant disease or salpingitis were present. 4. That even where tubal disease was present or suspected, exploratory dilatation of the cervix, for metrorrhagia of apparently intra-uterine origin, was not necessarily contra-indicated, salpingitis being often secondary to and aggravated by intra-uterine disease. Here again antisepsis was all-important. 5. That where fibroids of the uterus were evidently present, the immediate cause of the hæmorrhage might be a removable one, such as a coexisting polypus or a fungous endometritis, and that therefore the uterine cavity should be, when practicable, explored, before removal of the appendages or hysterectomy was entertained. 6. That in some cases dilatation alone sufficed to greatly relieve both the hæmorrhage and the pain. 7. That if an exploratory dilatation were more often adopted prior to the employment of Apostoli's treatment, it would tend to a more exact knowledge of its applicability, and put its use on a more scientific basis.

Mr. DORAN said that the first thing to be satisfied of was the presence or absence of endometritis; but the precise nature of the latter affection was not quite known. The diseases of the tubes were fairly understood, as were also those of the ovaries, except cirrhosis, which latter seemed to correspond somewhat to baldness or whitening of the hair. The difficulty with the uterus was that there was something of its membrane cast from it every month, but precisely how much no one knew, and on that account it was very difficult to say what was morbid and what was not. The danger of endometritis was its extension to the tubes and peritoneum, and the great advantage of dilatation and diagnosis was that many diseases to which women were liable could be, by suitable treatment, thus nipped in the bud.

Mr. KNOWSLEY THORNTON agreed with the first and second of the author's conclusions, and he was also sure of the value of antisepsis. He never passed a sound but he followed it with a probe, on which was twisted a bit of cotton-wool dipped in iodine, and he left this in the uterus for a few seconds; he had not found pyrexia follow dilatation, even in malignant cases. He did not see why antiseptics were all important in pyo-salpinx cases, because in those it was quite impossible to protect the woman from sepsis. In many cases of uterine fibroid it was quite impossible to explore and to render the uterine cavity aseptic; it was far better to proceed with the major operation at once. He had found hæmorrhage and pain relieved by operation, sometimes in a way not easy to explain. He thought that a debate on this subject would prove useful to the profession at large, for there was still much ignorance on this subject, and he quoted, in conclusion, a case of fungous endometritis in which, for want of dilatation, carcinoma of the uterus had been diagnosed. Hysterectomy had been proposed, and, but for an independent opinion, would probably have been carried out.

Dr. HAYES agreed with the author's general conclusions, which accorded with his own experience. Long ago he came to the conclusion that dilatation by tents was dangerous, because it led to cellulitis and sepsis, and he had therefore adopted Hegar's bougies, which he had made with a more rounded extremity. He had found fixation of the uterus by vulsellum unnecessary, for where it was done it incommoded the further passage of bougies into the uterus. Before removing tumours he preferred, after rapid dilatation, to use a tent, as under the influence of the latter the uterus became softer. The only case in which he had met with accident in rapid dilatation was the following:—A woman past the climacteric was suffering from profuse and watery discharge. As he dilated, the uterus ruptured, both at the side and at the fundus, although no force was used. At the post-mortem examination there was found fatty degeneration of the liver and of the heart; the uterus itself was very soft, and apparently fatty also. He would hesitate to dilate if acute salpingitis were present.

Dr. WILLIAM DUNCAN thought that in all cases rapid dilatation should be resorted to in preference to gradual, there being far greater risk with the latter. The only exception he would make would be in the case of malignant disease of the fundus. He held that the uterus should be fixed with a vulsellum, as a case had been recorded in which the organ had been torn from its connexions where dilators alone had been used. Where the cervix could not be easily gripped he usually made a small bilateral slit and then passed one blade inside the cervix and one out. In fibroids the operation of hysterectomy or of removal of the appendix should be preceded by dilatation of the cervix. He related two cases in which, having neglected to previously dilate the cervix, he removed the appendages for fibroid, without checking the bleeding. One of the patients subsequently returned. He then on dilatation found a pedunculated fibroid as large as an orange, which he removed with the écraseur, with the result that the hæmorrhage almost entirely stopped, though some intra-mural fibroids still remained. Slight lacerations of the cervix were of no moment and healed up rapidly; they were obviated in the virgin uterus by lateral incision. He had found that dilatation could be carried out without the aid of an anæsthetic in many cases in multiparæ. He agreed cordially in the advantage of thorough asepsis. After dilating he introduced iodised phenol and placed an iodoform bougie in the canal, which was kept in place with a plug of glycerine.

Dr. JOHN WILLIAMS did not know why Hegar's dilators were considered to be so good, and why tents were so depreciated. The latter had, till comparatively lately, been constantly used with very few bad results, if the patients were kept in bed and on their backs. Rapid dilatation by bougies was better when pregnancy had recently occurred, but in women who had not been pregnant for a long time the risk was very great. To dilate a uterus so that the forefinger could be introduced as far as the fundus meant that the cervix must be lacerated in every case, and the tear began at the internal orifice and extended downwards; therefore he could not see why incising the external os should stop it. Such a laceration would leave a scar which might give rise to trouble afterwards. It was not necessary to dilate a uterus for diagnosis so that a forefinger could be passed into it—endometritis, for instance, could be easily told by the way in which a sound passed gently over the surface of the mucous membrane produced hæmorrhage. For the treatment of that condition rapid dilatation was most valuable, the canal being dilated up to the size of a No. 18 English, and the curette then being freely used. In cases of hæmorrhage the cavity of the uterus should not be explored until the case had failed to be controlled by medicine. The risk of rapid dilatation was slight, but in one case, about six days afterwards, what appeared to be a hæmatocele developed, but the patient did quite well. He had dilated safely in instances in which there were lateral swellings on each side of the uterus. If hæmorrhage were present in association with tubal disease, its occurrence was probably accidental. He admitted the advantage of dilating in many cases of fibroids; at any rate, if this were done more frequently, a large number of women might have their ovaries saved.

Dr. HEYWOOD SMITH agreed that in many cases it was not necessary to go beyond a No. 18 in dilating, and the operator himself should certainly hold the uterus in order to estimate the amount of resistance. He advocated the employment of Bell's dredge curette, which he held to be more efficient than most in use. Any plugging that was necessary should be accomplished by means of gauze in strips. He referred to a case of pyo-salpinx in which the whole tubeful of pus emptied itself into the uterus during the catamenial discharge, and perhaps dilating and curetting in these cases might be of value in promoting this.

Dr. HORROCKS said that from a consideration of the structure of the cervix he could not see how laceration could be avoided in rapid dilatation. Tents did not lacerate to the same extent, because the process was a more physiological one. He had never had any serious results from the use of the bougies, though at Guy's Hospital a Hegar's dilator had been pushed through the uterus into the peritoneal cavity without untoward result. The patient died four months later of another lesion, and the scar in the uterus was then distinctly visible. He held that there were cases in which dilatation of any kind was injudicious, and in others, such as those in which the patient had not been pregnant for a considerable time, it was better to use laminaria tents which had been soaking in absolute alcohol containing corrosive sublimate.

Dr. CHAMPNEYS said that he thought that too much had been made of the idea that Hegar's method was the only antiseptic one. It could never be certain that the cases were aseptic to start with, and either a bougie or a tent might bring in septic pus with it. With care a laminaria tent could be made not only harmless of itself, but it could be used as the vehicle for the introduction of a certain amount

of powerful antiseptic to the benefit of the patient. A tent not well prepared might become foul, but if carefully applied and the vagina well packed with antiseptic behind it, it could be kept sweet for hours or even days. Hegar's method was especially useful where the cervix was moist with secretion, for it was then in such a temper as to yield readily. The cases of rigid dry cervix should be prepared with a tent before using the bougies.

Dr. LEWERS said that reference had been made to his paper on Rapid Dilatation of the Cervix read before the Harveian Society some five years ago. Many then present who were opposed to the method had since become strong supporters of it. He himself now considered that rapid dilatation was not a method to be universally applied in all cases, but that it was of special value where dilatation was required at no long time after a confinement or miscarriage, or in cases of molar pregnancy. For such cases it was a perfect method. On the other hand, in cases altogether apart from pregnancy, or in those who had never been pregnant, rapid dilatation often meant laceration, and for such cases dilatation by means of laminaria tents, rendered aseptic and antiseptic by prolonged immersion in a 1 per cent. solution of corrosive sublimate in absolute alcohol, was the best method.

Dr. AMAND ROUTH briefly replied, remarking that he did not consider it safe to hurry too rapidly over the smaller sizes at the beginning of the process. He agreed that most cases could be diagnosed when the size of No. 15 Hegar was reached, and he only dilated further if operative measures had to be adopted.

CLINICAL SOCIETY OF LONDON.

Compound Ganglion of Wrist.—Thiersch's Method of Skin Grafting.—Leucocythæmia.—Unusual Cutaneous Eruption. — Transposition of Viscera. — Thyrotomy for Malignant Disease of Larynx.—Peculiar Lesion of Soft Palate.—Congenital Malformation of Thyroid Cartilage.—Cardiac Asthenia following Influenza.—A Renal Affection resembling Raynaud's Disease.

A CLINICAL MEETING of this Society took place on March 25th, Mr. H. G. Howse, Vice-President, in the chair.

Mr. STANLEY BOYD showed a man aged fifty-two, who had been affected with Tubercular Arthritis of the Wrist and Compound Ganglion, the latter being secondary to the former. The wrist was excised and the ganglion laid open, the tendons, so far as they were affected, being thoroughly scraped. A very good recovery had resulted, though the muscles of the thenar eminence had become wasted. There was found to be an enlargement of the median nerve, which, though it abutted on the ganglion, was independent of it.

Mr. FREDERIC EVE and Mr. J. A. LAWRENCE showed two cases, a woman and a man, who had been the subjects of Rodent Ulcer extending over the bridge of the nose. The growths were freely removed, and the surface left cleansed with a 1 in 2000 mercuric chloride solution, the mercury being washed away with sterilised salt solution. The surface of the skin used for grafting was similarly cleansed, and the raw surfaces completely covered. The grafts had taken, and the patients were shown with the surfaces covered with healthy skin.

Dr. ORD exhibited two cases of Leucocythæmia. The first occurred in an Italian aged thirty-six, who presented no history of malarial disease. He had had rheumatic fever some time previously. Six months before admission the abdomen commenced to increase in size, due to enlargement of the spleen. Later, anasarca and ascites developed. There was no febrility; and the urine contained one-third of albumen, with free blood and epithelium and with hyaline and epithelial casts. The blood showed a large increase of white corpuscles with a diminution of red discs and of hæmoglobin. There were feathery hæmorrhages into the retinæ. He was treated at first for dropsy, which disappeared, and then was given arsenic, under which the spleen diminished rapidly in size, the urine contained hardly a trace of albumen, and the blood was normal. The second case was that of a schoolmaster aged forty, who eight months ago noticed swelling of the abdomen, and four days before admission was attacked with severe and painful diarrhœa. On examination there was a very large spleen; the blood was loaded with leucocytes, which, as in the previous case, were large, granular, and showed but little amœboid movement. The diarrhœa was controlled by bismuth and opium, and then under arsenic the spleen diminished rapidly. He thought that the fluctuations under treatment were larger than usual in leucocythæmia, and in both cases he considered the rapid improvement due to removal of causes of irritation, rather than to cure by drugs in the ordinary way.

Dr. ORD likewise introduced a man aged twenty-nine who presented an unusual Eruption on his Chest. It much resembled acne in appearance, there being red elevations and comedones. It ran round the body in a band, but differed from herpes in that it did not follow the course of the nerves. There was no history of the application of a plaster.

Dr. ARTHUR DAVIES showed a boy eight years of age with complete Transposition of Viscera associated with morbus cœruleus.

Dr. SEMON first showed a case in which he had performed thyrotomy for Malignant Growth of the Left Ventricular Band and Ventricle of Morgagni, in a gentleman aged thirty-eight, on June 2nd of last year. The growth was a squamous-celled carcinoma. The patient had recovered without any incident whatsoever. There was no trace of recurrence, and the result was excellent so far as phonation was concerned. Although all the soft parts on the left side of the larynx, including the left vocal cord, had been removed, the patient's voice was practically normal. The situation of the former growth was occupied by a smooth cicatrix, with a prominent ridge corresponding to where the left vocal cord had been, and the right vocal cord on phonation to some extent crossed the middle line and almost touched this ridge.

Dr. SEMON next exhibited a case of an Obscure Affection of the Soft Palate. The patient was a married woman aged twenty-two, who complained of soreness in the throat and swelling of the glands since August last. The affection began with a cold, followed by swelling of the gums, and when this subsided the throat became bad, and the glands in the neck swelled. The tongue had never been affected. She married two years ago; her husband was consumptive, and came from a consumptive family. She had had no children, and no miscarriage. There was a good deal of dysmenorrhœa, but there was no history and no other evidence of syphilitic disease. On examination of the throat when the patient first came to the hospital it looked very much like a case of commencing tuberculosis of the palate, and local treatment by lactic acid was therefore commenced, but without success. The disease, on the contrary, spread over almost the whole of the soft palate, and in parts came to resemble the margins of the condylomata of secondary syphilis. Energetic specific treatment had been resorted to, but neither various mercurial preparations nor iodide of potassium had had the slightest influence upon it. The infiltrated part was very tender to the touch, as were also the considerably enlarged cervical lymphatics underneath the angles of the jaw on both sides. The case was brought forward for suggestions as to diagnosis and treatment. The opinion had been expressed that the disease of the palate was analogous to the so-called "geographical tongue"; but, apart from the fact that he knew of no such affection ever having been observed on the palate, the intensity of the pain, the occurrence of actual ulceration, and the swelling of the glands seemed to differentiate it even clinically from that affection. He himself inclined to the belief that it was of a parasitic nature. He intended to examine scrapings both microscopically and bacteriologically. For comparison's sake a genuine case of tuberculosis of the palate, occurring in a woman of about the same age, was shown which had already been considerably benefited by scraping and local applications of lactic acid.

Dr. SEMON lastly exhibited a case of Congenital Malformation of the Larynx and Trachea, with a Diverticulum of the Œsophagus. The patient, a single woman aged twenty-six, came to the throat department of St. Thomas's Hospital in the beginning of this year, complaining of "thickness in the throat" and occasional regurgitation of undigested food an hour or more after meals. The pharynx and œsophagus, so far as visible, were perfectly normal, and bougies were passed easily into the stomach without encountering any obstacle. The thyroid cartilage was more prominent than usual and the larynx seemed to stand much lower in the neck than under normal circumstances. The

two halves of the thyroid were not united in front by firm cartilage, but merely by a thin ligamentous connexion, and the finger-nail could be easily introduced into the fissure thus resulting. The right half of the thyroid also distinctly overlapped the left one. Laryngoscopically, the right half of the larynx was seen to stand somewhat higher than the left, and one could look right down into the right ventricle of Morgagni, the right vocal cord being visible along its entire breadth. The cords moved well in respiration and completely touched one another in phonation. There was, in addition, an apparent displacement of the trachea, for which, on examination of the neck and chest, no explanation could be found. As to the œsophageal affection, the probabilities were in favour of a diverticulum. There was no family history of congenital malformation.

Dr. BURNEY YEO read a paper on Cardiac Asthenia following Influenza. The author called attention to the frequency with which cases of notable cardiac asthenia had been observed to follow attacks of epidemic influenza. The circumstances under which these cases occurred and the symptoms which characterised them were then detailed. Two instances of aortic regurgitant murmurs developing after influenza attacks were briefly quoted, and the author then gave the details of a more remarkable case which had been under his care in King's College Hospital. A dark-looking well-built man aged thirty-eight, an oil presser, had always had good health until suddenly attacked with dyspnœa and palpitation about three months before admission. His chief symptoms were very great irregularity of pulse and heart beat, anasarca of the lower extremities, albuminuria (which completely disappeared after two or three days' rest in bed), great enlargement of the liver, a large effusion into the right and a smaller effusion into the left pleura. Notwithstanding all this the patient's general condition was good. He had no pain, no fever, no rise of temperature, his tongue was perfectly clean, his appetite good, his bowels regular, his head clear. A careful clinical analysis of his symptoms traced them all to a rapidly produced acute cardiac asthenia with dilatation. There was no evidence of any valvular disease. The rarity of such a condition was pointed out, and it was urged that the only possible way of accounting for it must be the preceding occurrence of some infective disease, the original symptoms of which were so slight and casual as to escape observation. Such a disease we had had in the recent influenza epidemic. On further scrutiny into his previous history it was ascertained that during the epidemic of last spring he had been laid up for three days with pain in his back, but he had paid very little attention to the attack. Different views as to the nature of these cases of post-grippal cardiac asthenia were referred to, and the possibility of their origination in sclerosing arteritis of the coronary vessels, the result of bacillary influenza, was mentioned. Some observations by Huchard and his views on this subject were referred to, especially as to the dependence of these phenomena on lesions of innervation. Some remarks on the most appropriate treatment of these cases concluded the paper.—Dr. FRANCIS TAYLEUR said that no doubt the heart was affected in a peculiar manner by the poison. In the post-febrile condition he had seen the pulse reduced to 50 or lower, and he quoted a case in illustration of this. The fact that they recovered pointed strongly to the neurotic causation of this condition.—Dr. LONGHURST inquired of the author what his views were as to the exhibition of alcoholic stimulants.—Dr. GOODMAN had observed extreme pulsation of the abdominal aorta as a result of influenza. It was associated with marked exaggeration of the aortic second sound, and no change of pulse.—Dr. PERCY WIGHTWICK asked what was the prognosis in these cases. He had met with marked acceleration of pulse in a man of seventy, who bore digitalis badly; his pulse did not return to the normal till six months afterwards.—Dr. YEO, in reply, said he was averse to excessive alcoholic stimulation in these cases. He had found that a grain each of quinine and phenacetin every hour had proved useful in a case associated with hyperpyrexia. The prognosis was good if a proper period of rest were secured to the patient, but this he believed in some cases required to be measured by years rather than by weeks or months.

Mr. HOWARD MARSH read notes of a case in which an affection of the kidney presented points of resemblance to the phenomena observed in Raynaud's disease. The patient, an unmarried woman aged twenty-five, was originally admitted into St. Bartholomew's Hospital in June, 1886, with symptoms of a stone in the left kidney. There were all the usual symptoms of renal calculus, and the urine contained pus and blood. He cut down upon the kidney to explore, making the incision in the mid-axillary line in order to gain more room. He found nothing, and as the symptoms continued, he subsequently cut down in the middle line of the abdomen. He then discovered that it was freely mobile, and was withdrawn out of reach when the deeper parts of the wound were retracted. No stone, however, was found, but as the kidney was atrophied and useless, it was removed. The patient made a good recovery, and was discharged in September, 1886. After removal the kidney was found to contain three small calculi. It was remarkable that the kidney should have undergone atrophy on this account, for the size of the calculi was such that they might have passed without difficulty. A month later the patient was readmitted with pain in the right kidney. There was typical renal colic, with almost total suppression of urine. In January the right kidney was explored, but nothing was found. The symptoms, however, subsided, and the patient went on well until the following December. During this time, however, she had occasional attacks, and on Jan. 29th she was admitted again after an attack of unusual severity. For some days after this she had partial suppression of urine and occasional attacks of severe suffering, and these recurred at intervals until July, when the kidney was again exposed by an incision through the right linea semilunaris. The kidney seemed healthy and moderately hypertrophied. No dilatation of the ureter. Matters then went on as before, with occasional attacks, until in February, 1888, the kidney was again explored, the ureter was opened two inches below the pelvis of the kidney, and a long probe passed down it. No obstruction, however, was found. The substance of the kidney was then incised so that the pelvis and calyces could be explored with the finger, but still nothing was found. The patient gradually sank, and died on the 17th. At the necropsy an opening was found in the cæcum due to ulceration of the vermiform appendix. The right ureter was a little dilated and bound down by fibrous bands to the cæcum. The mischief in the appendix had probably occurred in the previous November, when there were symptoms of appendicitis. The author discussed the symptoms: he pointed out that the condition of the left kidney seemed to account for the symptoms on that side, but on the right side there was no mechanical condition to account for them; and the symptoms were presumably due to some profound vasomotor disturbance similar to that associated with Raynaud's disease. He pointed out that Raynaud's disease was by no means constantly symmetrical nor confined to distal parts, such as the fingers and toes; but might, on the contrary, affect various districts of the circulation. At the same time the author was not prepared to assert that this case had the same pathology as Raynaud's disease. He insisted only on the fact that the symptoms were those usually taken to indicate calculus with obstruction, but the case evidently belonged to a group of cases in which severe paroxysmal pain and various symptoms referable to the kidney might be present, but of which no adequate explanation could be given.

Mr. MANSELL MOULLIN referred to a case, particulars of which he had communicated to the Society earlier in the session. He desired help in the differential diagnosis of the colic of renal calculus from other forms of renal colic not associated with stone.

Reviews and Notices of Books.

Traité de l'Hygiène Publique, d'après ses Applications en France, Angleterre, Belgique, Allemagne, Autriche, Suède, et Finlande. Par Dr. ALBERT PALMBERG, President de la Société d'Hygiène de Finlande. Translated from the Swedish into French by M. A. HAMON. Paris: Octave Doin. 1891.

THAT the preservation of public health is an international question is forcibly illustrated by the admirable and comprehensive work which Dr. Palmberg has already published in two languages. No greater mistake could be committed than to believe that the nations which have made the most progress in sanitation have nothing to learn from countries which are in the rear rather

than in the van of progress. In every country some good points may be found, and this truth is rendered evident by even a mere glance at Dr. Palmberg's studious record. Thus, in spite of the vaunted sanitation of England, and though we are acknowledged to have led the way in modern sanitary reform, it is in the united kingdoms of Norway and Sweden that the lowest death-rate has been secured. This was only 17·2 per 1000 compared with 19·0 per 1000 for England during the year 1887, 20·5 for Belgium, 21·0 for Finland in 1888, 22·0 for France in 1887, 26·6 for Germany during the same year, 29·4 for Austria in 1888, and 34·6 for St. Petersburg in 1888. Dr. Palmberg attributes the low death-rate of Norway and Sweden as much to the high degree of civilisation and the morality of the people as to the excellence of their hygienic laws and institutions. The sanitary laws of Sweden comprise, among other rigorous enactments, measures for the construction of isolation hospitals, the compulsory removal of patients suffering from infectious diseases to these hospitals (unless they possess sufficient means of isolating themselves), and the obligatory disinfection of rooms, furniture, and wearing apparel. Vaccination has been enforced in Sweden since 1853, and the law insists that all towns shall have a good supply of pure drinking water. But we cannot here analyse the sanitary legislation of Sweden, and have only mentioned one or two points to show that this country is well abreast of other nations. England occupies the first and largest portion of the book. There is a chapter on our sanitary administration, two lengthy chapters on our sanitary legislation, and then we have two chapters on London. After this there are chapters on Scotch sanitary legislation and on Edinburgh. But Dr. Palmberg not only deals with the laws; he also gives very full descriptions of the practice of hygiene. With the aid of more than two hundred illustrations he describes the notable inventions, the methods of draining, of ventilating, and of warming, which in each country seemed to him most remarkable. We have therefore before us a very useful book of reference, that will render great service to every international sanitary reformer. There are seven chapters devoted to Great Britain, three to Belgium, three to France, and three to Germany; Austria, Sweden, and Finland have two chapters each. But the information given is all arranged on the same principle: first the law, then the practical application of the law, and finally an account of ingenious inventions, devices, and contrivances for the maintenance or improvement of sanitary conditions. Thus, for instance, we have drawings of the different disinfecting stoves, portable and fixed, used in various countries, with accompanying letterpress descriptions. The methods of house drainage employed in each country are similarly illustrated. While thus giving a vast amount of useful information, Dr. Palmberg is very reserved in the expression of any opinion. He is nevertheless loud in his praise of England, which, he declares, possesses the most complete and precise sanitary code in the civilised world. On all sides the "marvellous effect" produced by these good laws may be observed. France, on the other hand, meets with but a small measure of praise. Since the great revolutionary epoch, since the laws of Nov. 14th, 1789, Aug. 16th and 24th, 1790, and Sept. 28th, 1791, little or nothing has been done in France by the Legislature. Dr. Palmberg might have added that, instead of progress, these laws, which are now a century old, have been to some extent rendered inoperative by the more modern and very injurious law of April 13th, 1850. These same laws, with the exception of the latter, still govern Belgium, where they were imported by the French Republican armies. They give to each commune very extensive powers; and it is by the use of this local autonomy that Brussels has become a model town in Europe. But in France these powers are curtailed by the much-abused law of April, 1850. Dr. Brouardel, the dean of the Paris Faculty of Medicine, in a gracefully written preface, introduces the French translation of Dr. Palmberg's book, and notices that the author is somewhat severe in respect to the backwardness of French sanitary legislation. But Dr. Brouardel acknowledges the truth of the criticism, urging, however, that it is no use making laws before public opinion is ripe for them, and then compliments the English on the practical sense they have shown in sacrificing the privileges of individual liberty for the preservation of public health. In conclusion, it should be observed that Dr. Palmberg has attended all the more recent international congresses of hygiene, and the volume he has produced is a striking proof of the great utility of such gatherings.

Saturn's Kingdom; or, Fable and Fact. By CHARLES MOORE JESSOP. London: Kegan Paul and Co. 1891.

THIS book is rather a collection of essays than a continuous work, though it commences with the consideration of such broad subjects as time and distance, the solar system, and the early history of the world, continues with the history of the development of life and the phylogeny of man, and ends with a discussion on primitive religion. Mr. Jessop (who, by the way, is a member of the medical profession) has collected a large number of interesting facts, which he has arranged under separate headings. Thus, speaking of distance, he quotes the astronomer Herschel, to the effect that the sun advances through space with a velocity of 154 million miles per annum. But, he says, the seven figures which represent one million convey to the mind no idea of the magnitude of one million. But if we take a tape, as suggested by Mr. Croll, of 83 ft. 4 in. long and divide it into tenths of an inch, each tenth representing one hundred years, this tape extended will convey some idea of the enormous amount expressed by the word million. Mr. Nasmyth's method of bringing home to the mind the same number is also ingenious. For he shows that sixty columns of the ordinary type of *The Times* newspaper represents about one million letters. Mr. Jessop states that he recently constructed such a sheet, and that, oddly enough, when the sheet was completed, there was a blank space of about twelve inches at the end of a column, which would correspond very nearly with the amount of type required to express the age of the world as ascertained from history. A chapter is devoted to the subject of the sun's heat, and the author endeavours to show that the radiant energy of the sun is not derived from combustion, since that could only last for a brief period; nor from the falling of meteorites upon the surface of the sun, though it can be proved by calculation that the weight of 1 lb. on the earth is equal to 28 lb. on the sun's surface, and as the sun's radius is 426,292 miles, the energy of 1 lb. of matter falling into the sun from infinite space would equal that of a 28 lb. weight descending upon earth from 426,292 miles; supposing the force of gravity to be as great at that elevation as it is at the earth's surface, it would amount to upwards of 63,000,000 foot-pounds. But even this would not be a sufficient source for the continuous heat radiated from the sun. There is, however, another theory of the origin of the sun's heat, that, namely, of the contraction of its mass, and by calculation it appears that with the present magnitude of the sun its whole diameter need contract but 220 feet per annum to produce all the heat it now radiates. This contraction will amount to four miles in a century. It is not impossible that the heat of the sun may be the result of the collision and fusion of two bodies moving in space towards each other at the speed of 476 miles per second, which is not beyond that of other stellar bodies. In such case the heat promptly generated would equal fifty million years of the present intensity. In a similar interesting though speculative manner he dis-

cusses the age of the habitable earth from the thickness of the sedimentary rocks, the denudation from rain and rivers, and other data. The Falls of Niagara, estimating their recession at one yard in one year, have existed 12,000 years. The inundation of the Nile raises the land of Egypt four inches and a half in a century. Interesting chapters are devoted to the antiquity of man, the gradual development of the faculties, and primitive religion. Some of the author's statements seem to us to be open to discussion. Thus, in one place he remarks that in man sight is not impeded by a long muzzle, *therefore* (the italics are ours) the sense of smell is unnecessary to sight. Is not this a *non sequitur?* Again, Mr. Jessop remarks that up to 1900 years ago a considerable section of the Hebrews did not believe in the immortality of the soul. Hence, the idea of a soul living for ever is a notion of yesterday compared with the duration of man upon earth. Again, we think a *non sequitur.* Other nations may, and probably did, hold the doctrine of the immortality of the soul. There is much else that deserves perusal, and we can recommend Mr. Jessop's book as one which may well prove a welcome companion after a hard day's work.

A Practical Guide to Meat Inspection. By THOMAS WALLEY, M.R.C.V.S. Second Edition, Revised and Enlarged, with Forty-seven Coloured Illustrations. Edinburgh and London: Young J. Pentland. 1891.

THAT a second edition of Professor Walley's "Practical Guide to Meat Inspection" has been called for so soon after the appearance of the first is ample evidence that such a work was needed. There can be no doubt that the publication of the first edition opened the eyes, not only of medical officers of health and market inspectors, but also to some extent of the general public, to the importance of this subject. We are still far behind continental authorities in this matter, and, as an example of this, Professor Walley points to the meagre staff of any of our large abattoirs as compared with those of a place like Berlin, where at the central abattoir no fewer than 250 persons, including a director, nineteen veterinary surgeons, and six assistant veterinary surgeons, are engaged in inspecting, classifying, and stamping the meat from carcases slaughtered there; whilst about fifteen veterinary surgeons are engaged in the inspection of carcases slaughtered elsewhere, and brought into the city.

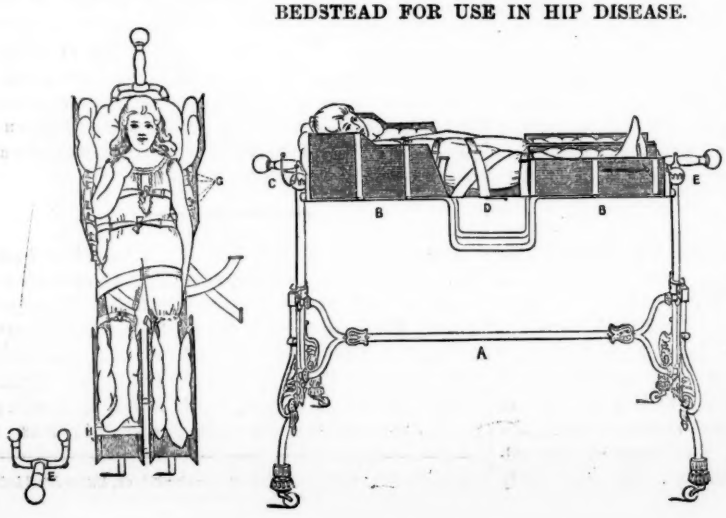
Professor Walley takes up in order the following questions:—The substitution of the flesh of animals not generally used for human food for the flesh of those so used; marketable and unmarketable flesh; rules to be observed in the inspection of meat; examination of the carcase for the purpose of detecting abnormal conditions, such as those due to violence or disease. He then takes up *seriatim* the various diseases that may cause changes in the meat, giving prominence to the cachectic conditions, diseases due to animal parasites and those due to vegetable parasites, and amongst these latter especially to tuberculosis. The work finishes with a chapter on refrigeration, frozen, salted, preserved, and tinned meats and fish, in connexion with the latter of which he is strongly of the opinion that "all fish in which evidence of putrefactive change exists should be unhesitatingly condemned for the purposes of human food." The chapter on legislation in reference to the consumption of animal flesh, fish, &c., will be useful to medical officers of health. The illustrations, coloured and uncoloured, at the end of the work should prove valuable to those who have to study this question of meat inspection; they are taken from actual specimens, and may therefore be used for comparison with specimens that come under observation. In this edition many corrections, additions, and improvements have been made. The book well illustrates the results of the work of a practical man of wide experience carried out in a thoroughly scientific fashion.

New Inventions.

NEW FEEDING CUP.

MISS MINA FORREST, nursing sister at the Herbert Hospital, Woolwich, has submitted to us a specimen of a new feeding cup which she has designed, and for which she claims the following advantages:—(1) The initial cost is trifling; (2) being made of bright metal it is practically unbreakable; (3) the mouth-piece, which is removable, is easily cleaned and kept sweet; (4) the cup, being furnished with a hinged lid, is capable of being completely covered, and the contents thus preserved from dust and other atmospheric impurities; (5) the interior of the vessel being graduated, the exact quantity of nourishment given can be accurately measured; (6) the handles, of which there are three—one at each side and a third at the back—are conveniently placed for holding by either patient or nurse. The cup, which is manufactured by Messrs. Evans and Wormull, is likely to be as useful as it is certainly elegant.

BEDSTEAD FOR USE IN HIP DISEASE.



OUR attention has been directed to the difficulty likely to be felt by some of our readers in the endeavour to gain, by a mere verbal description, a clear conception of the nature of the apparatus mentioned by Mr. Stanmore Bishop in his paper on Morbus Coxæ published in our columns on March 12th. We therefore supply a pictorial representation of the cradle designed for use in such cases, and which, as already stated, is manufactured by Mr. John Carter of New Cavendish-street, London, W.

THE LANCET.

LONDON: SATURDAY, APRIL 2, 1892.

IN his presidential address to the British Guiana branch of the British Medical Association, Dr. ROBERT GRIEVE, well known in England in connexion with the office he formerly held under the Metropolitan Asylums Board, dealt with the question of quarantine, and the burden of his paper was to show grounds why he differed from our English views in so far as their application to his colony is concerned. For reasons which we will refer to we see no ground for dissenting from him on this point. But there are one or two passages in the address which need some comment. He says that after careful search he has failed to discover what the quarantine is to which so much objection is taken by English writers, and he adds: "Isolation and disinfection, as ordinary sanitary precautions, are admissible; but call them by the name of quarantine and they thereupon change their character and become something to be reprobated by all laying claim to be fully civilised." If, as a matter of fact, Dr. GRIEVE, who says he has followed the discussions on this subject with close attention, does not understand the elementary difference between that which in England goes by the name of "medical inspection," which aims at isolation and disinfection, and that which constitutes quarantine as understood and practised abroad, it may be that others also do not clearly perceive the distinction. And since at this moment the subject is matter of discussion between the principal Governments of Europe, it may be well to explain that the essential difference lies in the fact that under the English system only those who are found to be actually suffering from the disease to be controlled, or who are so ailing that they are suspected to be so suffering, can be detained; whereas the remainder of the crews and passengers are allowed to travel to their destinations subject to notice of their impending arrival being given to the authorities at those destinations. In short, the healthy are not detained. Under the quarantine system the healthy are detained, as well as the sick and the truly suspect, and the system, as hitherto practised in most parts of Europe and in the Red Sea, has been carried out in such a way as to expose the healthy to a risk of contracting the disease which it is proposed to check far beyond any which they had run before; the consequence being that the detention has to be renewed again and again until a sufficient period has elapsed since the last of the hitherto healthy who will sicken has succumbed to the disease. Dr. GRIEVE claims that quarantine does much the same as our English system because it, too, only aims at "detention and isolation of sick persons, and also, but separately, of suspects." But the quarantine system regards all the healthy on board as suspect, whereas the English system regards all as healthy who are not actually suffering from some definite ailment, and it deals with them as such. We need hardly point out that the difference is a vital one. Again and again we have been told that our fears as to the consequences to the healthy are imaginary. Here in England it is essentially cholera with which we are concerned, and the glorious climate of El Tor in the Red Sea, and the careful arrangements, including the grouping of the healthy into classes so as to avoid risk, are constantly dangled before our eyes as something to be grateful for. We always knew the facts were diametrically opposed to the professions made, but we are glad to have before us at this moment Dr. PAUL KAUFMANN'S "Die Quarantäne Station El Tor,"[1] for in it the tale, which gives the facts up to date, is told by one who cannot be suspected of English bias. We should advise all who wish fully to apprehend the bearings of this question to procure the book and read it; and in the meantime we would only refer to the description given in it of the water-supply, which, after so long a term of years, is available in this noted sanatorium, for a wholesome water-supply will be admitted by all to be a first requisite in the case of a cholera quarantine station. Dr. KAUFMANN, who is gifted with a vein of humour, recalls the fact that near El Tor were the bitter waters of Mara, the taste of which led to the Israelitish murmurings against MOSES; and he then states that if the Israelites had had such stuff offered them as obtains at the El Tor sanatorium they would not have contented themselves with murmurs, but they would certainly have stoned their leader.

But, as we said at first, we have no wish to dispute Dr. GRIEVE'S contention in so far as Guiana is concerned, for he frankly admits that what he claims for that colony would not be properly applicable to England or to any European country; and we are at one with him that, theoretically at least, quarantine can control and restrain infection. He desires to deal by quarantine with most infectious diseases, and he explains that the colony consists of a population scattered over a wilderness, without any sanitary supervision, and where vaccination is all but unknown. Should infectious disease be landed under such circumstances, the first intimation of it that would be received would be "a widespread outbreak of disease which it would be a hopeless task to check." In a country where there is no profession even of a sanitary administration, and where the well-known prophylactic against small-pox is not and never has been practised, we can understand the attitude adopted, and we have no desire to cavil at it. The address was mainly interesting to us in so far as it bore upon the European attitude towards quarantine in its relation to cholera.

FOR many years a mysterious disease has affected cattle in that part of the American Continent which borders on the Mexican Gulf and is known in the United States as the splenic, Texas, or Spanish fever. It has been observed wherever and whenever bovines from the States on that Gulf have been driven northwards, and more particularly during the summer months, and is looked upon with the greatest apprehension by cattle breeders. In 1868, for

[1] Berlin, 1892. Verlag von August Hirschwald, 68, Unter den Linden.

instance, the destruction it wrought among the northern herds with which the travelling Texan droves came in contact, directly or indirectly, and the obscurity that prevailed with regard to the nature of the disease, caused a serious panic, and nearly led to the total suppression of the traffic in cattle between the Gulf States (which are almost entirely cattle-rearing countries) and the Northern States. At that time Professor GAMGEE was in America, and the United States Government availed itself of his services in making an investigation of the malady. The report of the Commission was published in 1871, and did not throw much light either on the nature of this Texas fever, as it is now generally designated, or its etiology; indeed the latter remained in as great obscurity as ever. The tendency was to regard it as a kind of anthrax or splenic fever, due to the animals becoming affected by something in the soil or water; "their systems became charged with poisonous principles that accumulated in the bodies of acclimatised animals, which enjoyed immunity from the disorder." It was ascertained that these southern cattle might be taken great distances, and improve in condition while doing so, and yet for some weeks, and probably for as long as three months, they would "continue to excrete the deleterious principles which poison the cattle of the States through which the herds are driven on their way north or west." The report also stated that all breeds of cattle in States north of those of the Gulf coast, without regard to age or sex, if they fed on grass contaminated by southern droves, were attacked by the fever; that it occurred chiefly during the hot months of summer and autumn; and that infected pastures were rendered free from danger by frosts, and remained so until fresh droves of Texan or Florida cattle were again driven over them.

This apparent freedom of the exotic southern cattle from disease, and their capability, notwithstanding, of disseminating such a fatal infection among native bovines, was an altogether unusual feature in epizoötology, and could not be accounted for. It is true that the redoubtable cattle plague, or rinderpest, does not so severely affect the cattle of southern Russia as it does those in western countries; yet it kills a good percentage of them, and greatly impairs the condition of those which do not succumb. But here were animals in evidently excellent health carrying destruction everywhere they went.

The principal symptoms in those infected are a somewhat rapid rise of temperature from 101° or 102° to 106° and 107°, at which it remains from four to fifteen days in fatal cases; this condition is soon accompanied by intense debility, that persists until death takes place. A few days before the fatal termination the urine becomes more or less deeply tinged with hæmoglobin, and the destruction of red blood-corpuscles causing this altered tint of the urine can be demonstrated by examining the blood obtained from an incision in the skin. In acute cases, a day previous to death the number of these corpuscles has been found reduced to about one million in a cubic centimetre of blood, the normal number being something like five millions and a half. In one case, which recovered, the corpuscles fell to nearly one-half their ordinary number, and a week later they had not increased to three millions. This enormous decrease in the red corpuscles gives the blood an exceedingly thin and watery appearance; after death it coagulates rapidly, and forms clots of unusual firmness.

The lesions noted in making a necropsy are chiefly the following: The spleen is very much enlarged, and when incised the tense capsule retracts, and exposes a dark-red and more or less disorganised pulp that sometimes pours out as a semi-fluid mass; this engorgement is due chiefly to the presence of an immense number of red corpuscles. The liver is much affected; it is yellowish-brown in colour, the tissue is deeply bile-stained, and the smallest canaliculi are often plugged with inspissated bile, that fluid in the gall-bladder being also so thick that it scarcely flows, owing to the presence of solids in the form of minute yellow flakes. The kidneys are tinged with hæmoglobin, the connective tissue around them being distended with reddish serum. The other organs are often more or less stained in the same manner, but seldom exhibit any other character.

The heavy losses caused every year by this peculiar fever have compelled the United States Government to take special notice of it, and with the view of thoroughly investigating its pathology, experimental stations have been established at points where it could be best observed. The result of this measure has been very satisfactory. These investigations began in 1889, and attention was more especially directed to the blood. No bacteria were discovered, but there were found, instead, peculiar bodies lodged in the red corpuscles. In the fresh splenic pulp these appeared as round or oval, almost colourless spots, from one-half to nearly two micro-millimetres—from $\frac{1}{3000}$ to $\frac{1}{1200}$ inch—in diameter on the disc of the red corpuscles, and always somewhat excentrically placed. Sometimes there was only one but quite commonly there were two, and very rarely three or four, in the same corpuscle. In organs kept in the cold for nearly two weeks these bodies were still visible, though faintly so, owing to the diffusion of the hæmoglobin around, and perhaps into them. They stained with aniline dyes as readily as nuclei and bacteria, and retained the stain as tenaciously; they then appeared like deeply stained cocci, about one-half to one micromillimetre in diameter, situated within the unstained circle of the corpuscle. Besides the spherical forms, ovoid bodies are not uncommon, and these usually occur in pairs within the red corpuscle; while a still rarer pear-shaped form is met with in stained preparations of the blood, this being rounded at one pole and constricted or filamentous at the other. These almost invariably occurred in pairs, which occupied one corpuscle, and were considered as the result of division of the single body. Another abnormal form was found in the blood. When dried cover-glass preparations were stained with LÖFFLER'S alkaline methylene blue, a few corpuscles appeared as if their surface had been dusted over with minute specks of colouring matter; but whether these were due to the anæmia, or whether they belonged to the cycle of the micro-organism, could not be determined. Very few of these bodies were found in the circulating blood, though in one instance a number were detected in that fluid the day before death. Blood from the right ventricle of the heart contained them in enormous numbers in pairs within the red corpuscles. They seemed to be filtered out by the spleen and liver, for they might be numerous in one or both of these organs, and rare in blood from the

right heart. They appeared to be more abundant in the spleen than in the liver. In perhaps half the number of cases examined, they were so few in the spleen that they easily escaped the attention of an observer searching for bacteria. In one instance they were so scarce that a number of fields had to be scanned before any were detected, and here the spleen was completely disintegrated; while the urine, which contained much hæmoglobin several days before death, was almost normal in colour at the necropsy, as if the animal had overcome the parasites, but perished from the havoc caused by them.

It had long been suspected by cattle owners that the appearance of this fever in northern cattle was in some way connected with the ticks (*Ixodes Americanus*, Lat.; *I. bovis*, Riley) distributed by southern cattle, though this notion was generally scouted by scientific men. However, as every other possible cause of the scourge had evaded detection, it seemed worthy of investigation, and the result now is that indisputable evidence has been obtained that the fever is produced by these ectozoa. Ticks taken from the bodies of southern cattle, and placed upon pastures which could have been contaminated in no other way, so infected these grounds that susceptible bovines placed upon them contracted the malady in the same period of time, and were as seriously affected, as were other susceptible cattle allowed to consort with those from Texas. Again, young ticks that were hatched from the eggs of adult ticks picked from southern cattle were placed on the skins of northern animals, and induced the disease.

There are, consequently, two factors in the production of Texas fever—ixodes, and the protozoal micro-organism which is located in, and destroys the red corpuscles of, the blood in the affected animal. Whence the insect obtains the protozoon is not yet known, but that the latter can be transmitted from one generation of ticks to another, through the ova, has been demonstrated. It is important to know how many generations of ticks these germs can be communicated to without losing their virulence, and whether there is any other means by which they gain access to the blood of cattle than by the punctures made by these vermin. There are evidently ticks which do not bear the micro-organisms, as cattle which are susceptible to Texas fever are often badly infested with them without showing any marked signs of bad health. On the other hand, there may be means by which the protozoon gains access to the blood of cattle independently of the agency of ticks; but it appears from the investigations just reported, that in the great majority of cases cattle are infected by means of the skin parasites. The adult ticks drop from the southern cattle, and deposit their ova upon the pastures; these ova are hatched, and the young ticks get on susceptible beasts and engender the disease in them. The young ticks are hatched within from fifteen to thirty days after the eggs are laid, and at once get on the cattle, where they become mature within from twenty to thirty days; they then fall off lay their eggs, and die. This process goes on continuously until the cold weather sets in.

The experiments by which these interesting and important results were arrived at, were numerous and conclusive as to the part the ectozoa play in the production of the malady, so that it might be said, No ticks, no Texas fever. Is it not possible that the Tse-tse fly of Central and South Africa causes the death of certain mammalia by acting as the intermediate bearer of a noxious micro-organism, as the mosquito does with regard to the filaria sanguinis hominis? In no other way, it would seem, can its deadly action be accounted for.

DOES the tendency, increasing, we are told, in continental schools, to minimise the study of pharmacy in medical qualification receive any warrant from the best periods of medical practice? We think not; and Dr. BERENDES, in his recent "History of Pharmacy," gives exhaustive grounds for an answer in the negative. CELSUS, in a memorable passage of the introduction to his "De Medicina," says of the Alexandrian school that it had split up the healing art into three branches—the dietetic, the pharmaceutical, and the surgical. From his statement historians have concluded that this tripartite division of medicine involved a complete separation of each section from the other; that the practitioner who relied on dietetics had nothing to do with drugs; that his contemporary who based his practice on drugs ignored diet; and that, while neither paid any heed to surgery, the surgeon held both of them at arm's length. HALLER is one of the upholders of this view. "About the time of HEROPHILUS and ERASISTRATUS," he says, "surgery and pharmacy broke away from dietetics. This was a gain to botany, for the pharmaceutist threw himself with undivided energy into the study of plants; but, on the other hand, medicine proper was the loser, as the leading consultants neglected the vegetable kingdom, and administered remedial agents sold by quacks." SPRENGEL, another learned historian of the healing art, expresses himself in almost the same terms. Medicine, he says, as CELSUS assures us, was so modified by the Alexandrian school that its practitioners separated themselves completely from surgery on the one hand, and from the knowledge and preparation of drugs on the other. While the learned *dilettanti* of the profession were too proud or too lazy to meddle with arts which in their eyes were beneath their dignity, the old "rhizotomy" (medical botany) revived, and, in conjunction with pharmacy, was worked up into a *métier* by individuals. These interpretations, as Dr. BERENDES has shown, are, both of them, unwarranted. CELSUS, when he speaks of combating disease by pharmaceutical means, is not thinking of the knowledge and preparation of drugs. He is simply opposing to that school of practitioners who had chiefly faith in diet that other school who relied most on active remedial agents. This is clearly his purpose, as may further be proved from the preface to the fifth book of the "De Medicina." Diet and drugs, he says—indeed, all parts of the healing art,—are so closely interdependent that neither can be separated from the other. GALEN, about 130 years later, is of precisely the same opinion. "Pharmacy," he maintains, "heals, with medicaments only, internal and external lesions." That it had an independent existence, in the modern sense of the term, or, as SPRENGEL would have it, as a mere auxiliary of the physician, is, as Dr. BERENDES justly remarks, a totally false assumption. SPRENGEL'S further contention that it took the place of an effete "rhizotomy" is equally un-

tenable. Rhizotomy was still in great vogue immediately before and long after the rise of the Alexandrian school. Indeed, GALEN, even in his time, repeatedly praises the rhizotomist ANTONIUS for his knowledge of healing plants; and makes mention of another of the fraternity, PHARNAKES by name, as having taught him a wonderful remedy in hepatic diseases. The preparation of medicines was, as GALEN expressly lays down, "a privilege of the physician," to be exercised only with the best materials that could be procured. PLINY the Elder, a century and more before GALEN, even goes so far as to specify the best quality of stone which the physician should employ for his mortar. HALLER'S attempt to show that the Alexandrine practitioners who combated disease with drugs were in the narrow sense "pharmacopolæ" rests on a passage of PLINY which has really no bearing on the question. PLINY is denouncing the indolence of Roman consultants who, having neglected to qualify themselves for the composition of the drugs they prescribe, rely on the quack vendors of these, who hawk them ready made. Then, as in much later times, there were perfunctory practitioners who liked to have everything done for them, and who, as PLINY says of the stipendiaries of the Alexandrian University, found it far more to their taste to sit on benches and philosophise than acquaint themselves with the remedial virtues of the vegetable kingdom. Dr. BERENDES points out that in modern schools there is a tendency not dissimilar to that in the Egyptian *alma mater*, and that a neglect of pharmacy on its practical side would fain justify itself by an appeal to historical precedent. No such precedent, at least in the sounder phases of the healing art, can be adduced—certainly not from the precept or practice of the "fathers of medicine." There is no "royal road" for the physician any more than for the geometer; and specialism could assume no more objectionable form than the disparagement in medical qualification of that practical familiarity with drugs, their composition and their preparation, which has hitherto been insisted on as an integral and not the least important part of the practitioner's training.

THE pathology of pneumonia is one of the *quæstiones vexatæ* of medicine. The disease has so many points of resemblance, on the one hand, to the specific fevers, and, on the other, to acute pulmonary affections, that the determination of its true pathological relations is a most difficult and complex problem. The question at issue becomes still more interesting when we remember that, not only has pneumonia been a puzzle to the pathologist, but its treatment has been one of the great controversies of therapeutics. We naturally turn for light on these subjects to such a work as the exhaustive "Treatise on Diseases of the Lungs and Pleura," by the late Dr. WILSON FOX. "Two opposite theories," the author informs us, "have been advanced regarding the origin of pneumonia, both of which are supported by certain facts and opposed by others—(1) That pneumonia is a 'specific' fever, of which the disease in the lungs is only a local effect; and (2) that it is a purely local disease, of which the pyrexial and other phenomena observed are only the immediate consequences." In favour of the first view are the following facts—(*a*) negatively, the absence in a large proportion of cases of any discoverable cause likely to excite inflammation of the lungs, and (*b*) positively, the suddenness of the onset of the disease, its well-defined course, its occasional epidemic and contagious character, the presence of bacteria in the blood, and the frequent appearance of a cutaneous affection (herpes), possibly analogous to the rash of the exanthemata. A point corroborative of the above is the well-known want of synchronism between the clinical progress of the case and the pulmonary condition. Thus, it is very common for the temperature to fall to normal and all the symptoms to abate, while the physical signs of pulmonary consolidation remain practically unchanged. Less frequently, but still not very rarely, the consolidation may show signs of resolution before there has been any abatement of the clinical symptoms.

The above evidence seems strong, and if we confined our attention to it we might conclude with some confidence that pneumonia must take its place among the "specific" diseases. But, unfortunately, there are some points of great weight that tell against this view. Thus pneumonia is only very exceptionally epidemic, and its contagiousness, although held by some good observers, is still doubtful. Again, the influence of season is very apparent. The preponderance of pneumonia falling in the months from January to May. It might be urged, in reply to this, that just as pneumonia shows a preference for the late winter and early spring, so typhoid fever inclines to occur as an autumnal disease. But it seems impossible to resist the evidence that the frequency of pneumonia is much influenced not only by season, but by weather, cold winds, and sudden changes of temperature predisposing to it. In this regard, pneumonia shows an affinity with pulmonary disease and other affections that are admittedly due to "chill." Then, again, while there is often a want of synchronism between the physical signs and the symptoms of pneumonia, we have to recognise, on the other hand, such a fact as the greatly increased mortality which attends bilateral, as opposed to unilateral, pneumonia.

In so far as treatment throws any light on this subject there are facts on both sides. The general stimulant treatment of pneumonia, now almost universally adopted, hardly differs essentially from the treatment of the continued fevers, and is obviously adapted rather to the theory that pneumonia is a "specific" disease than to the belief that it is a local inflammation. On the other hand, local applications to the chest in the form of poultices, icebags, &c., have enjoyed much favour, and have been believed by some authorities to influence the progress of the disease. Stimulating expectorants, again, generally play a considerable part in the therapeutics of pneumonia. Summing up the subject, WILSON FOX wrote: "The theory of a 'specific' cause can scarcely be maintained for pneumonia in the same sense as that in which the term is employed for the contagious pyrexial diseases. The causes of pneumonia are manifold, and the disease may originate under such diverse conditions that it seems impossible to attribute it to any single blood poison. On the other hand, the most probable hypothesis to explain its origin is that of an altered composition of, or the existence of some morbid material in, the blood, which, from its special qualities, may affect a particular organ, or, as is more probable, may,

under local predisposing causes, excite inflammation in that part of the system which in any given individual is the most liable to suffer, as a *locus minoris resistentiæ*." We have no knowledge of the nature of the changes in the blood that predispose to pneumonia. The excess of fibrine that has been described has been shown by VIRCHOW to be the consequence, rather than the cause, of the pulmonary inflammation. In some cases, no doubt, pneumonia is due to septicæmia, but this is not at all probable of the typical acute disease.

It is rather a curious circumstance that while theoretical considerations and clinical evidence seem at present inadequate to fix definitely the pathological relations of pneumonia, the response of pathology and bacteriology is also somewhat equivocal. It is true that the researches of the bacteriologist of late years have considerably advanced our knowledge of this part of the subject. From them we learn that the microbe most constantly present in pneumonic exudation, and in that of the inflammatory affections with which pneumonia is often complicated, is the diplococcus discovered by FRAENKEL and WEICHSELBAUM; whereas FRIEDLÄNDER'S bacillus, like some other microbes occasionally found in pneumonia, is of exceptional occurrence. Nor must the remarkable investigation of the two KLEMPERERS upon the toxines of the first-named organism be lost sight of, as affording additional proof of the specificity of the disease. Nevertheless, when all these contributions to knowledge are collated, it would still seem that much remains to be done before we are in a position to conclude that bacteriology has said its last word regarding pneumonia.

According to WILSON FOX, "the disorder which, on a lesser scale, presents the greatest analogy with acute pneumonia is perhaps acute tonsillitis, where we have the same short initial stage, a similar intensity of rigor and prostration, a similar sudden invasion of pyrexia, and a similar rapid decline of this before the local inflammation has shown any signs of abatement. In tonsillitis, also, we have frequently an equal difficulty with pneumonia in verifying a distinct cause, and a certain amount of evidence at least exists in the case of the so-called 'hospital sore-throat,' that it may also be produced by other poisons than those originating within the system from the impeded exercise of the function of the skin." It will thus be seen that the pathology of pneumonia remains a question *sub judice*, but that the best authorities incline more and more to the specific theory of its origin.

THE statement which has recently been presented to the Scottish Universities Commissioners by the Edinburgh Association for the Promotion of Reform in Medical Education in the University of Edinburgh must necessarily lead to great changes in the methods of medical education in that University. The number of medical students in 1889–90 was 2003; the number of professors in the medical faculty is twelve. Evidently in order to keep pace with modern requirements in the teaching of medicine, the number of lecturers, assistants, and demonstrators has been greatly increased, and to these gentlemen the arrangement and control of the practical classes, which demand the utmost attention and the greatest amount of work, have been virtually assigned. It is stated that at the present time even these are insufficient in number to attend to the wants of the students. Instead of meeting the necessary differentiation in teaching involved in the increased range of medical study, it is urged that at Edinburgh practical and tutorial classes are arranged under professors who may have no knowledge of these new departures, and yet exercise full control over the assistants and demonstrators by whom the teaching is conducted, and that in many cases the majority of students are not properly instructed in the more modern methods of investigation and research. To such a pitch of conservatism has the education of medical students reached that we are told in a memorandum that this differentiation "is largely unprovided for, and certainly so to an extent greater than is the case in many small English schools, in the unendowed extra-mural school of Edinburgh, and even in the smaller foreign universities." The great burden of complaint is, in the first place, that the teaching is insufficient and its rewards are in too few hands. As we have said, the University works its medical school of 2033 students by means of twelve professors (seven of whom are also engaged in private practice), five lecturers (of whom four are also in private practice), and about thirty assistants, who do the main part of the practical work. It is obvious that the growing demands in medical teaching during the past twenty years should have been met by a proper increase in the professoriate, and not by handing over such duties to a junior, and an insufficiently remunerated, staff controlled by the respective professors. The class fees paid to the professors in 1889–90 amounted to £23,000, and in 1886–87 the average net income of each was £1620. We know that in many instances it has exceeded this amount, and in addition to the net income the Scotch professor is assured of a handsome retiring allowance. Under these circumstances it is clear that unless the prestige of Scotch University education in Edinburgh, so far as medicine especially is concerned, is to be allowed seriously to deteriorate, a few important reforms are urgent. These are: that the whole teaching staff should be paid directly by the University Court; that all teaching appliances and collections in the museum and laboratories should be the property of the University, and be maintained at its expense; that extra professorships should be established in many subjects; and that a revision and readjustment of the fees should be made, so as to secure a fair remuneration, with a due proportion of the class fees—not determined by the professor, but by the University Court—for the junior workers, viz., the assistants and demonstrators, on whom is really placed the practical work of the University. The system of lecturing to huge classes is in these days really an anomaly; personal supervision of the practical and clinical work of each medical student has now to a great extent superseded the ancient plan, and will still further replace it in the future. A reform in the incidence of the fees must follow this change in medical education, however distasteful this may be to the Scotch professoriate.

Annotations.

"Ne quid nimis."

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE recent action of the Council of the Royal College of Surgeons in appointing a committee to consider what further advantages should be extended to the Fellows of the College has had its natural effect in stimulating the zeal of the committee of the Association of Fellows. The announcement was considered by the officials of the latter body of so much importance that a meeting of the committee was summoned about ten days ago to take the subject into consideration and to determine the future action of the Association. As a result of this summons the members of the committee mustered in strong force on Wednesday last, the 30th ult., at 5 P.M., at the residence of the President, Mr. Pollock. After the minutes of the last meeting had been read and confirmed, the discussion was formally opened by Mr. Holmes, Vice-President of the Association, who had drawn up a digest of the points which the Association has from time to time urged at general meetings of the College. This digest was put into the form of a resolution, proposed by Mr. Holmes and seconded by Mr. Lawson Tait, and was carried by acclamation. It was to the following effect:—"The following points are those which the Association of Fellows regards as essential to the well-being of the College in its relation with its Fellows. We arrange them in the order of their importance, in our opinion: 1. No organic changes in the constitution or relations of the College ought to be decided on without having first been approved by the Fellows of the College. 2. At the annual meeting of the Fellows the President ought to be elected by the votes of the Fellows present. 3. The Fellows ought to have the right to meet at the College separately from the Members. 4. A separate room in the College ought to be set apart for the use of the Fellows. In urging these points we express no opinion on the rights of the Members in any of these respects, seeing that our Association is formed solely for the purpose of advocating the claims of the Fellows." It was further considered desirable that the honorary secretary of the Association should communicate with the President of the College, and state that the committee of the Association would be glad to be allowed to send a deputation to the Council. The discussion of the foregoing subjects occupied the committee for a considerable time, and some other important business, including the consideration of a draft account of the proceedings of the Association of Fellows, which has been drawn up by a subcommittee specially appointed for the purpose, had to be postponed to a subsequent meeting. One other resolution, however, which we have sincere pleasure in recording was unanimously adopted—viz., "That this committee invites Mr. John Tweedy to allow himself to be put in nomination for the Council at the next election." We shall recur to this matter at an early date.

THE RETIREMENT OF DR. HAYCRAFT FROM EDINBURGH UNIVERSITY.

IT is naturally with some reluctance, but not without hope that good may come of it, that we call attention to the unhappy state of affairs at present and lately existing in the University of Edinburgh in connexion with the relations between the holder of one of the most important professorships in the medical faculty and the gentlemen who have lately been assisting him in his work. We will not recal the extremely unpleasant circumstances under which a few years ago the professor parted with his then assistant. Acting on the advice of his friends, the professor took a prolonged rest, and it was earnestly hoped that in the future there might be no recurrences of similar differences. Unfortunately such has not been the case. In the *Scotsman* of March 18th Dr. Berry Haycraft gives a narrative of his relations with Professor Rutherford and the causes of his dismissal. The facts as set forth by Dr. Haycraft are briefly these: In March, 1887, Professor Rutherford wrote to Dr. Haycraft, then occupying a chair in the Mason Science College and the Queen's College Medical School, Birmingham, asking him to be his substitute at Edinburgh during the prolonged absence which his state of health required. Dr. Haycraft was unable to consent, as it would take him away from his office for so long a period; but subsequent correspondence and interviews took place, in the course of which Professor Rutherford appears to have offered him a permanent post as his colleague, and it was understood that he would apply for Dr. Haycraft's appointment as assistant professor when he (Professor Rutherford) returned to Edinburgh. At Professor Rutherford's instance, and with no misgivings, considering their mutual relations, Dr. Haycraft signed an agreement which contained a clause binding the parties mutually for three years, and requiring at least a year's notice if either wished to retire from it. Dr. Haycraft accordingly resigned his Birmingham chair, and took up what he thought to be a permanent office in Edinburgh. About the time of expiry of the three years' agreement, and shortly after Professor Rutherford had assured his colleague of his continued confidence in him and need of his help, a serious change is alleged to have occurred in the attitude of the senior towards the junior professor. Apparently this was excited by the fact that Dr. Haycraft had communicated a paper to the International Congress at Berlin, upon a subject in which Professor Rutherford was also much interested—viz., the structure of striped muscle. The latter gentleman, moreover, is stated to have attempted to sever his connexion with Dr. Haycraft in the middle of the session by reference to the above-mentioned clause in the agreement, but omitting the one year's notice. Dr. Haycraft seems besides to have good reason to complain that owing to various circumstances no steps were taken by Professor Rutherford to obtain for him the status of assistant professor until after the Berlin incident. Pending the action of the Universities' Commission, the Senate declined to make the appointment, and now Dr. Haycraft finds himself severed from his *alma mater*, to which he had been invited on the urgent appeal of his former master. In view of all the facts we feel strongly that it is the bounden duty of the University to make full inquiry into the matter. Whichever way the subject is viewed it is impossible to avoid sympathising with Dr. Haycraft, who, by his own action, and in all good faith, has placed himself beyond the power of obtaining legal redress.

MEDICAL PRESCRIPTIONS AND DRUGGISTS.

THIS perennial subject has lately been discussed in letters in the *Pharmaceutical Journal*. The medical writers complain that old prescriptions are redispensed by chemists over and over again, often when the condition and case of the patient make it very unsuitable and even dangerous. The chemists recommend as a remedy for this that the medical practitioner who wishes to cease dispensing should retain a particular chemist, and have an understanding with him not to dispense particular prescriptions more than once and without special authorisation. This is an arrangement that may be worked honourably on both sides. But it is not so satisfactory as one in which the practitioner is independent

of all chemists and the patient pays for the prescription. After all, if the patient uses a prescription on another occasion than that on which it was prescribed, he does so at his own risk. But it is undeniable that a prescription given to the patient for a fee is his property, to be used by him at his discretion. To think that Parliament, as is suggested, could be got to pass an Act to stop this practice is to have much more faith in Parliament than seems to be warranted. Speaking candidly, these letters are not very practical. There is one evil which they entirely ignore, and which is of far graver import than those complained of—viz., the assumption of an air of medical knowledge and learning by druggists in cases that would puzzle medical men themselves; and the use to which they put their familiarity with prescriptions—viz., repeating them for others and prescribing them. Some druggists—we should be sorry to think more than a few,—by a system of inquiry learn the general nature of the cases for which prescriptions are written, and then apply them to what they regard as similar cases. If general practitioners and chemists are to come to better relations, there must be a more perfect and delicate understanding on such practices.

THE MEDICAL REGISTERS FOR 1892.

THE Medical, the Dental, and the Medical Students' Registers, printed for the General Medical Council at Her Majesty's Stationery Office, are now ready. The election of direct representatives necessitated the revision of the Register with more than ordinary care. The number of practitioners registered during 1891 has somewhat increased, being 1345, as against 1266 in 1890. Deducting those names which have been removed from the Register owing to death or from other causes, the number of names added to the Register is 392. The total number is 29,555, as against 29,163 in the previous year. Of the new registrations, 683 were effected in England, 502 in Scotland, and 160 in Ireland. The registration of colonial practitioners under Part II. of the Medical Act, 1886, now includes 10 names. The Dentists' Register for 1892 will be found to contain 79 persons more than that for 1891, making a total of 4896, of whom 1179 practitioners, or 24·07 per cent., possess the qualification of Licentiate in Dental Surgery; while 3698, or 75·55 per cent., are registered as "in practice before July 22nd, 1878." This shows a marked diminution continuously going on from the percentage 90·87 of those who were so registered in the year 1879. The number of foreign dentists now registered is 19, or nearly 0·4 per cent. The Medical Students' Register shows that 2405 students registered in 1891. This is the maximum hitherto recorded, being 559 more than in 1890. This may be accounted for, no doubt, by the new regulations with regard to the five years' curriculum that came into operation on January 1st, 1892. Following the practice adopted for many years past, statistics are given showing the respective preliminary examinations that these students passed and the various medical schools or other "places of study" at which they commenced their professional career.

MEDICAL LEGISLATION IN NEW SOUTH WALES.

THE Sydney papers, in leading articles and letters, continue to discuss the Medical Bill and its fitness to secure the chief ends of medical legislation—the clear differentiation of the qualified from the unqualified. The *Sydney Morning Herald* objects that, while special arrangements are made for the registration of persons who have been practising without qualification, men who have passed through a curriculum and who hold qualifications or degrees may be left out or remain unregistered. There is some ground for the first objection. When medical legislation was first introduced it was reasonable to admit to the Register persons actually in practice and without diplomas. But that can hardly be held now, when for many years, in most civilised communities, men have been required to show proof, in the shape of diplomas, of being qualified to practise. At any rate, if there is still to be a clause of grace in favour of men without diplomas, it should provide that they shall be registered under a separate head, not on the score of possessing a diploma, but on giving satisfactory proof of having been for many years in practice. To make clear such a distinction is only fair to men who have taken diplomas at great cost of time and money, and fair also to the public. The *Herald* also objects, apparently, to registered men being disfranchised or taken off the Register on the ground of their diploma being taken away by the body that gave it on the score of mere "misconduct" or a breach of professional etiquette. Our contemporary would surely admit two things. First, that "conduct" is an essential element in the worth, and even the qualification, of a medical man. If a man dissociates himself from the obligations of his profession and its methods, he has no right to complain if his profession disowns him. It is in the public interest that he should be disowned. Medicine is a calling in which public deception and fraud can easily be practised if once the honourable and ethical side of it be disregarded. The second point is that no persons are so fit to judge in such a matter, and so likely to judge mercifully, as those composing the body from which the diploma proceeds. By all means let the Medical Council be required to deal directly with charges of misconduct, and to judge for itself; but in any case the judgment of a man's *alma mater* should count for much, and its disciplinary powers should be upheld. It is true, as our Sydney contemporary points out, that the Universities which should be most exemplary in the use of their disciplinary powers cease to have any after graduation. This is a monstrous state of matters, from which it results that graduates of ancient and honourable Universities occasionally bring their *alma mater* into great discredit with impunity. But that is a reason for giving to all bodies which grant diplomas full disciplinary powers, not for withdrawing them from those which already possess them. It is noticeable, as pointed out by a correspondent in the *Sydney Daily Telegraph*, that the judicial powers of examining bodies are only contemned by those who fear the exercise of them.

THE USE OF COCAINE IN SURGERY.

AT the Islington Medical Society recently Dr. Woodroffe read a paper on the Use of Cocaine in Surgery. He wondered how general practitioners got on formerly without it. He specified the following cases in which he had used it with satisfactory results—nasal polypi, adenoma of the naso-pharynx, excision of the tonsils, cystic growths of the scalp, tarsal cysts, scraping out of tubercular abscesses and sinuses in the neck, small false aneurysm in the palm, villous growth in the female urethra, internal hæmorrhoids, fistula in ano, tenotomy of anterior and posterior tibial muscles, also of the ligamentous sternal insertion of the sterno-mastoid in wryneck, fissure in ano, and abscesses of various kinds. Dr. Woodroffe would never use a general anæsthetic for internal piles save at the direct request of the patient. The expulsive power is saved by cocaine, and is a great advantage to the surgeon. He injects separately into the base of each pile. He has never used more than one grain, generally half that quantity. He had had two cases of poisonous effect, and had come to the conclusion that such a result depends far more on idiosyncrasy than on the quantity of the drug used. In one the quantity injected was half a grain; in the other only a quarter. The first was a woman, the second a girl about fifteen. Such cases have led him to be cautious in

using the drug for women, and especially those of a neurotic type. These symptoms appear immediately after injection. He never injects more than half a grain, and waits two or three minutes before repeating the injection in cases where a large dose is required. In this way he has used two grains without bad symptoms; indeed, he had never seen any symptom supervene which did not show itself on administering the first dose. Of the poisonous symptoms, the most evident were pallor of the face, dilatation of the pupils, sense of impending death, with great restlessness, orthopnœa, very rapid cardiac action; the pulse, however, being less compressible, and the second cardiac sound being more marked than in a syncopal attack. These symptoms were followed by perspirations, and in the case of the girl by rambling, incoherent talk for some hours. The treatment adopted was the inhalation of ether and ammonia, with repeated doses of hot brandy-and-water. Dr. Woodroffe has not found it effective in ear operations or in avulsion of the toe-nail. For the latter he adheres to the use of ether spray. He also praised the use of cocaine (about two grains of the salt in cocoa butter as a flat suppository), coupled with doses of chloral, in the rigid os of primiparæ. It can easily be slipped inside the os and retained there till dissolved.

A HEAVY SENTENCE FOR BABY FARMING.

To whatever cause we may attribute the fact, it is satisfactory to note that, notwithstanding the increased vigilance of the authorities, we have lately heard but little of the evil of baby farming. That it still maintains a surreptitious, though less vigorous, life is unhappily certain, and this, as the report of the following case will show, has lost none of its familiar accompaniments of neglect and cruelty. The later surviving child of two entrusted to the keeping of Alice Hockley, who was recently convicted of manslaughter at Exeter Assizes, was indeed a pitiable wreck when at last released from his sufferings by death. At sixteen months he weighed 11 lb. 2 oz. Both arms and a thigh were broken. His allowance of one pint of milk was shared by four other persons. He had, of course, no medical attendance. Here the responsibility for maltreatment does not appear to have rested on his parent, who allowed four shillings weekly for his maintenance, and who seems to have done what she could for his welfare. In such a case, which is hardly distinguishable from actual murder, the penalty inflicted—twelve years' penal servitude—was well deserved. It should serve to caution any persons who may undertake the care of nurse children that the Act which regulates their conduct will be strictly enforced. It should also remind the agents of local authorities, of the Society for the Prevention of Cruelty to Children, and all others directly interested in the working of the Act, that the wickedness which it combats is by no means extinct, and can only be held in check by their own repressive energy.

TEMPERATURE EXPERIMENTS.

COMING so soon after the honour bestowed on Professor Cannizzaro by the Royal Society, the selection of Professor Mosso of Turin to deliver a lecture before the same learned body has given much gratification to our Italian contemporaries. They note the fact that it is "la prima volta che uno scienziato Italiano viene chiamato a questo onore" (the first time an Italian *savant* has ever been invested with the honour). Having referred to the distinguished audience assembled on the occasion, they summarise Professor Mosso's remarks on the phenomena, psychical as well as physical, associated with the temperature of the brain. In his observations Professor Mosso used exceedingly delicate mercurial thermometers, so that a change of not more than 0·002° C. could be easily measured, and the temperature of the brain was compared with that of the arterial blood, the muscles, the rectum, and the uterus. The subjects of the observations were animals under various narcotics or anæsthetics and also man. He found that, as a rule, the temperature of the brain is lower than that of the rectum, but that intense psychical processes or the action of exciting chemical substances may cause the temperature of the brain to remain 0·2° or 0·3° C. higher than that of the rectum. An ordinary interrupted current causes a rise in the temperature, which is observed earlier in the brain than elsewhere, and in a dog placed under the influence of curare the temperature of the brain remained fairly high while that of the muscles and blood fell. This difference in temperature was always distinct, and Professor Mosso calls attention to the fact which this seems to signify—viz., that muscle is not the only thermogenic tissue of the body. Observations made on an animal when awake seem to show that the development of heat due to cerebral metabolism is considerable, and that the mere maintenance of consciousness belonging to the wakeful state, apart from all intense psychical activity, involves very considerable chemical action and consequent change in temperature. But the variations of temperature as a result of attention, or of pain, or other sensations, are very small; and when an animal is conscious, no change of consciousness, no psychical activity, however brought about experimentally, produces more than a slight effect on the temperature of the brain. Experiments were also made to show the elective action of narcotics on the brain. Thus, if a dog be rendered completely insensible by an anæsthetic, no rise of temperature is obtained upon stimulating the cortex electrically. Again, if an animal be fully under the influence of chloral, and if a muscle be made to contract, the temperature of the muscle rises, but falls rapidly as soon as the stimulation ceases; yet a similar stimulus to a brain under the same conditions will cause a rise in temperature which may continue to increase for several minutes after the cessation of the stimulation. The injection of cocaine also produces a rise in the temperature of the brain without any accompanying change in the muscles, yet when these are rendered inert by curare, the rise in the temperature of the brain after the injection of cocaine is very much greater, as much as 4° C. The observations are, it will be seen, very interesting and suggestive.

DENHOLM v. TAIT.

IN this action Mr. Lawson Tait was the defendant, and the plaintiff was Dr. Denholm of Manchester. As it was not allowed to proceed to the usual termination—a verdict—we need scarcely trouble our readers with the particulars. Speaking very generally, it was a case of myoma in the practice of Dr. Denholm. Dr. Denholm had attended the patient for ten or twelve years, and eleven years ago found her to be suffering from fibroid tumour. This was occasionally inconvenient from its size. Mr. Whitehead and Dr. Lloyd Roberts were both consulted, and the Apostoli treatment by electrolysis was tried, but ineffectually. On one of the occasions on which this treatment was tried an accident occurred which caused a fistula. Finally Mr. Tait was consulted, and recommended an operation, with much promise of success. On Jan. 28th he removed the tumour, which weighed 12 lb. The patient died in forty-four hours. Mr. Tait, in a letter, attributed the untoward result to hæmorrhage, a result of sloughing from the electrical treatment. Dr. Denholm took this letter as a reflection on his treatment, and commenced the action, though clearly he was not responsible for the electrical treatment so much as the consultants who recommended and carried it out. A post-mortem examination was made, to which, unfortunately, Mr. Tait was not invited, as he should have been, and death was shown to have resulted

not from hæmorrhage, but from peritonitis. Mr. Tait at the trial still spoke as if he believed that a hæmatocele existed, and might have been found if looked for. After Mr. Tait's evidence lunch time had arrived, and all the parties concerned came to an understanding to withdraw the case, if not the imputations on which the case rested. We cannot say that this course is satisfactory. It leaves questions of great scientific and personal interest unsettled, and must leave on the public mind a painful impression of uncertainty. Such cases must occur, and every practitioner concerned should magnanimously bear his share of the responsibility, knowing that he is doing his best, and giving credit to others for having done the same. Courts of law are rough places for the settlement of such disputes; but, if once appealed to, all the facts should be thrashed out and a verdict taken.

THE MEDICAL OFFICERSHIP OF HEALTH, ISLINGTON.

THE action of the Islington Vestry in suspending its own by-law against appointing actual or recent members to paid offices in favour of Dr. Wynn Westcott has excited general surprise and disapproval. The vacancy was not even advertised. This is a mode of procedure which is altogether out of date. In the House of Commons on Thursday Dr. Farquharson asked the President of the Local Government Board "if he was aware that the Islington Vestry had, contrary to its own by-law, appointed Dr. Wynn Westcott to the office of medical officer of health for Islington, Dr. Westcott having been until March 2nd a member of the Vestry and of the Public Health Committee; whether this appointment was made without previous advertisement, and against the votes of many members of the Board, including the chairman of the Public Health Committee." Mr. Ritchie's reply was in the main affirmative of all the points in the question, but he explained that the appointment was of a temporary nature, and that Dr. Westcott had ceased to be a member of the Vestry and of the Public Health Committee on Feb. 20th. The President gave further particulars with regard to the appointment, but for these we must refer our readers to our Parliamentary report.

METALLIC HYDROSULPHIDES.

QUITE new lines of chemical and physical research are opened in some papers which appear in the February number of the journal of the Chemical Society. The authors, Messrs. S. E. Linder and Harold Picton, of University College, London, who were encouraged and assisted by Professors Ramsay, Carey Foster, and Schäfer, started from an observation in regard to precipitated antimony sulphide. As their papers occupy nearly sixty pages of the journal, it is obviously impossible to present anything but the barest summary. They describe their experiments as still incomplete, but some of the chief conclusions already reached may be stated in a few words. In the first place, it was found that many metallic sulphides, notably those of copper and mercury, were capable of forming hydrosulphides which were soluble, or apparently soluble, in water. In some cases these compounds appear to have definite constitutions with high molecular weights, and we are presented with such curious formulæ as $7CuS,H_2S$; $22CuS,H_2S$; $31HgS,H_2S$; and $62HgS,H_2S$. Such formulæ must evidently be taken as provisional, although there is already fair evidence for some of them. Then followed some very interesting researches on the solutions or pseudo-solutions of these new compounds. In solutions that were apparently clear a beam of light showed the presence of solid particles which settled only with the most extreme slowness. We are reminded here of the experiments made so many years ago by Faraday on the separation of gold from solutions. Although these solutions appeared clear and had a bright-green colour, a cone of light rays showed the presence of suspended solid matter even after years of rest. In some cases these suspended particles were comparatively large, but in others they were so minute as to simulate the phenomena of liquid diffusion. A still more remarkable discovery followed. Using a microscope with an immersion lens capable of magnifying about 1000 diameters, the particles in many cases became visible, and were seen to be in rapid Brownian movement. It is probable that they would have been altogether invisible, but for the short free path produced by their great numbers. In other preparations the particles were far more minute, and it appears that no line of transition can be drawn between a liquid with actively moving solid particles and a true solution. The light which such researches are likely to throw on the complex problem of solution is evident, and scientific men will look forward with great interest to further discoveries.

DEATH OF DR. TOMKINS OF LEICESTER.

WE regret to announce the death on Sunday last of Dr. Henry Tomkins, who for many years held the post of medical officer of health for the town of Leicester. He was educated at Owens College, Manchester, and at Queen's College, Belfast, and afterwards studied at the hospitals of Dublin and Paris. He graduated as M.D. of the Royal University of Ireland in 1877, and in the same year he became a Member of the Royal College of Surgeons of England. Besides his appointment as officer of health he held the position of superintendent of the Fever Hospital, and was also the borough analyst. His yearly reports on the health of Leicester from 1885 were considered models of their kind. THE LANCET was indebted to his pen for several valuable contributions.

EFFECTS OF CRUSHING THE PELVIS TRANSVERSELY.

A SPANISH surgeon, Dr. Areilza, has made a study of the effects of violent pressure excited in a transverse direction on the pelvis, such as occurs occasionally when a man is caught between the buffers of railway carriages. For the experimental part of his investigations he had constructed a screw-press suited to the shape of the pelvis and fitted with a dynamometer. In this a pelvis with or without the soft parts could be subjected to any required degree of pressure. It was found that the common form of straightening was produced by a pressure varying from 100 to 300 kilogrammes. With less than this the two pubes were pushed forward in a symmetrical manner, but after more than 100 kilogrammes of pressure one of these remained in its position, the increasing deformity being entirely due to the other. At first the bones began to part at the symphysis, and then there came a fracture at the junction of the pubes with the ischium, with complete separation at the symphysis; lastly, the sacro-iliac synchondrosis gave way. Another, though less common, type of injury was fracture of the ileo-pubic and ischio-pubic junctions. A third type consisted of an ischio-pubic fracture with internal displacement of the fractured ends. The most important of the lesions produced in the soft parts were those occurring in the urethra, which is always affected in its membranous portion. Very severe wounds of this were sometimes caused by fragments or splinters of bone. The most usual injury, however, was due to the stretching of the triangular ligament, and consisted of ecchymosis and minute lacerations of some of the coats, but very rarely amounted to complete perforation. This lesion can be recognised by hæmorrhage from the meatus and by the subsequent occurrence of a stricture at the site of the

injury. The gravity of urethral ruptures caused by pelvic pressure is due to their producing intra-pelvic extravasation of urine, the only proper treatment for which is hypogastric section. Dr. Areilza details several cases which he has had the opportunity of observing clinically or post mortem, and which correspond with the results arrived at by experiments on the dead subject. In order to understand the mechanism of urethral lesions a special experiment was made on a pelvis from which some of the soft parts had been removed, the perineum, the external genitals, the urethra, the bladder, and the anal extremity of the rectum remaining. The bladder was injected with about eight ounces of water, and the penis tied to prevent its escape. A crushing force was then applied at the level of the acetabula. At 150 kilogrammes the symphysis began to part, and on one side there was lengthening to the extent of 1·5 centimetre. A sound was with difficulty passed into the bladder. At 250 kilogrammes there was overriding of the pubic bones, the lengthening amounting to 3 centimetres, the introduction of an instrument was impossible, though the urethra was sufficiently permeable to allow the water to run out when the bladder was compressed. With a force of 300 kilogrammes there was complete obstruction. The pelvis was now on the point of expressing the bladder from its cavity, and the tissues near the symphysis were infiltrated with venous blood. After the crushing force was removed it was possible, with difficulty, to get an instrument into the bladder, and the fluid could be expressed from it. Experiments were then made with the broken pelvis. These showed that when the displacement was great and the overriding complete the triangular ligament was torn; but the urethra, which is much more elastic, was not ruptured, unless the displacement of the bones was very great. A chromo-lithograph of the urethra is given showing the effect produced by a force of 300 kilogrammes. There was no rupture, though the peri-urethral tissues were lacerated. Several small hæmorrhagic foci appeared in the mucous membrane of the membranous portion and about the veru montanum; hæmorrhagic spots were also found on the bulb.

DR. YARROW AND THE HOLBORN GUARDIANS.

WE remarked some weeks ago on what seemed to us very uncalled-for reflections by certain members of the Holborn Guardians on Dr. Yarrow, who for twenty years has filled the office of medical officer of the City-road Workhouse with much credit and without complaint. Happily these reflections were referred to the Local Government Board. The Board has intimated to the guardians that, after carefully considering all the facts, it has come to the conclusion that Dr. Yarrow is not deserving of blame for his proceedings in the case in question. It is painful to see a public body make such mistakes in the treatment of a respected officer.

COAL-DUST EXPLOSIONS.

THE experiment shown very successfully before the Fellows of the Chemical Society, at the meeting on the 17th ult., by Professor Thorpe, although intended merely as a lecture experiment to illustrate the phenomena of coal-dust explosions, was highly instructive and, in view of the recent colliery disasters, singularly opportune. According to this experiment, coal dust *per se* must be considered beyond question to give rise to explosions of no mean intensity in coal mines. The disastrous effects produced by the enormous force of the impact travelling along all the ramifications of a mine are probably the result of explosions of this class; and the fact that explosions of this character are of rare occurrence in damp mines would seem to bear out this conclusion. Once ignited, the coal dust explodes with great violence, and this violence gathers in intensity as it proceeds. The explosion of coal dust may arise from some local ignition of fire-damp, or from the explosion of a faulty blasting cartridge, especially if the charge is gunpowder. In a box 12 ft. by 6 ft., constructed of oak, and cruciform in shape, an explosion of coal dust was shown, and also one of lycopodium powder; and the path of the explosion, it was pointed out, could be traced by placing pegs on the floor of the chamber, where the quantity of dust gathered on the faces of these pegs could be observed. The farther the pegs are from the initial point of explosion the more dust is observed on them, showing the increased intensity of the explosion as it proceeds. An ingenious apparatus, devised by Mr. Living, a late pupil of the Royal College of Science, for determining the amount of fire-damp in the air of coal mines, was also exhibited to the Fellows. It consists of a small magneto-electric machine, containing two very thin pieces of platinum wire, through which the current is made to pass. One of the wires is fixed in a glass tube containing simply pure air, and the other in a tube through which the air of the mine is drawn. The fire-damp causes the platinum wire to glow more brightly in the latter than in the former. The light is thrown on a paper screen, and by means of a simple device the difference in intensity may be measured and the actual amount of fire-damp deduced. In the interesting discussion that followed Mr. David Howard referred to two cases of "dust" explosions which came within his experience; one had occurred in a mill in which cinchona bark—a by no means inflammable substance—was ground, and in the other case soot produced by the burning of camphor had exploded after the fire had been put out.

ATAXIC PARAMYOTONE.

IN the February number of the *Centralblatt für Nervenheilkunde und Psychiatrie* Dr. Gowers has recorded a curious case under the above title. The patient was a man of forty-one, who had enjoyed good health until a year and a half before he was seen. He had suffered from syphilis eleven years previously—a fact which is probably of some significance. His symptoms first manifested themselves in his legs and later in his arms. When first seen he looked healthy and well nourished, his limbs were large, and his muscles well developed. They showed a peculiar hardness, however, the result of a true tonic spasm, which restricted voluntary movements and rendered them slow and difficult. Both flexors and extensors in arms and legs were affected. The patient would rise slowly and with difficulty from a chair, and would move about with a peculiarly stiff and deliberate gait. He easily fell if he met with any obstacle, and a slight push was sufficient to remove him from the erect position. There was also muscular weakness. But in addition to these symptoms there was also a considerable degree of incoördination of the hands, which made it difficult for him to button his coat and to carry out similar actions. Neither could he tell the position of his limbs, and he could not distinguish different weights. The knee-jerk, and other so-called tendon reflexes, could not be elicited, but this may have been due to the considerable rigidity which was present. There was blunting of sensibility on the palm, as high as the wrist, and slight delay in the conduction of painful impressions, but no disturbance of the temperature sense. The action of the sphincters was not disturbed, and there were no symptoms of psychical derangement. The case, it will be seen, offers some resemblance to one of Thomsen's disease, but differs in that the spasm in the case under notice was persistent, while in Thomsen's disease it is characteristically transitory; but, as Dr. Gowers points out, its importance lies chiefly in the fact that the character of

the symptoms makes it certain that the spinal cord is diseased, although, of course, such a view does not exclude a concomitant morbid condition of the peripheral nerves and of the muscles. The existence of a lasting alteration in the function of muscle, depending ultimately on some nutritional derangement, is shown by a change in the electrical and mechanical irritability, as well as by the experimental facts adduced by Drs. Ringer and Sainsbury, showing that even after the nerve terminations are paralysed by curara, a condition of muscles similar to that which occurs in Thomsen's disease may be produced by certain drugs. But, on the other hand, the symptoms in the case point to an alteration in the action of the motor cells of the cord. It must be remembered that these cells, even when the muscles are at rest, are still active, as the tone and the adjustment of the muscles must still be provided for. When the call to voluntary activity comes from the brain, this voluntary excitation subdues, as it were, this more or less automatic activity of cells, but in conditions like Thomsen's disease it may be supposed that this automatic activity persists temporarily, in spite of the will, yielding after a time; yet in the case described in this paper, the will was unable, even after a time, effectively to counteract the condition. The persistent condition of the muscles, the hardness and tenseness may conceivably be the result of prolonged disturbance of the action of nerve-cells, a view which receives support from the fact that Thomsen's disease sometimes shows itself in adults, and in most cases is slowly developed.

NEW SYNTHESIS OF TARTARIC ACID.

SOME light on the natural formation of tartaric acid is afforded by the recent discovery of a simple way in which this acid may be synthesised. A French chemist, M. Genresse, starts with glyoxalic acid—an acid found in gooseberries, grapes, and other fruits—and acting upon it with nascent hydrogen liberated from a mixture of zinc dust and acetic acid obtains eventually tartaric acid, or rather the optically inactive form of it known as racemic acid, equal molecules of the dextro and lævo varieties being apparently produced. The explanation of the action is very simple. Two molecules of glyoxalic acid are merely brought together by two hydrogen atoms. Glyoxalic acid is $C_2H_2O_3$, while tartaric acid is $C_4H_6O_6$, a formula which, as will be readily seen, contains two molecules of the former acid joined together by two atoms of hydrogen. It is well known that oxalic acid, $C_2H_2O_4$, is formed most readily in vegetable tissues, and is closely related to glyoxalic acid. Having regard, therefore, to the reducing tendencies which are known to characterise chlorophyll, it is not improbable that the natural building up of tartaric acid may be thus explained.

COMPULSORY VACCINATION IN BOMBAY.

WE have already had occasion to notice the creditable tone of the discussion on the second reading of the Bill for securing compulsory vaccination in the Bombay Presidency, as it has long been secured in Bombay itself. The only difference which arose was on the part of those who think that some great risk lurks in arm-to-arm vaccination as involving the transmission of objectionable diseases. They objected to the clause which gives authority to the Governor-General in urgent circumstances, and, where animal lymph cannot be obtained without dangerous delay, to authorise the use of human lymph. The chief exponent of this objection was the Hon. Mr. Javerilal W. Yajnik. He was well answered by the Hon. Mr. J. R. Naylor and others, who declared that there had been no complaint of the action of human lymph. Mr. Naylor, in particular, said that in thirty years' experience of litigation and complaints of all sorts in the Mofussil no complaint of this kind had come within his knowledge. The Governor, however, and his colleagues had no difficulty in suggesting a modification of the clause, common to this Bill and the Bill of 1878, for Bombay itself, authorising the governor to sanction the use of human lymph with which Mr. Javerilal W. Yajnik expressed himself as quite satisfied. It had reference to the provision of regulations as to the source from which the lymph is to be obtained, and the means by which its purity is to be maintained. This little difference being adjusted, the adoption of this beneficent Bill was practically settled, and a lesson was given in reasonableness to less enlightened opponents of such legislation at home. While we are confident that the dangers of arm-to-arm vaccination are greatly exaggerated, it is interesting to note that in Bombay for fourteen or fifteen years it has been found practicable to conduct public compulsory vaccination with calf lymph alone.

THE DANGER OF COUNTER-IRRITATION IN LOCALISED TUBERCULOSIS.

ACCORDING to Parrachia Anacleto, counter-irritation in localised tuberculosis is attended with great danger. Miliary tuberculosis spreads so rapidly from one organ to another by way of the veins and lymphatics that any irritation set up at the seat of the primary mischief cannot fail to increase the tendency of the disease to become general. Four cases which have recently come under his notice show this in a remarkable degree. Tuberculosis progresses slowly, but it allows of no violent remedies, and, he thinks, until some method of treatment more successful than either the injection of tuberculin, or cantharidate of potash, or the application of blisters has been discovered, the danger of causing general infection by their adoption will still remain.

THE DOUBLE CYANIDE OF ZINC AND MERCURY.

PROFESSOR DUNSTAN has already shown that when a solution of zinc sulphate is added to a solution of mercuric potassic cyanide, or when mercuric chloride is added to a solution of zincic potassium cyanide, a white precipitate is formed, which does not consist, as stated, of a double cyanide of zinc and mercury of the formula $ZnHg(CN)_4$. Further experiments, an account of which was given by Prof. Dunstan at the meeting of the Chemical Society on the 17th ult., indicate that this precipitate is in many respects a remarkable substance. The quantity of mercuric cyanide retained is dependent on the amount of water present during precipitation, as well as on the proportion in which the salts interact; the maximum quantity retained is 38·5 per cent. Zinc cyanide, having this percentage of mercuric cyanide attached to it in such a form that it cannot be removed by ordinary washing with cold water, is precipitated when cold saturated solutions of the two salts are mixed in equimolecular proportions. A series of experiments, in which the masses of the interacting salts were varied, proved that a compound of the two cyanides is formed, and suffers decomposition to a greater or less extent, depending on the relative amount of water present. Examination led subsequently to the inference that the composition of the double salt is expressed by the formula $Zn_4Hg(CN)_{10}$. Such a salt contains 40·6 per cent. of mercuric cyanide. It cannot be obtained pure, since it is decomposed by water, and it can only be produced by precipitation of aqueous solutions. All attempts to prepare the double cyanide by methods other than that of precipitation have failed. There was no forthcoming evidence of the existence of any other compound of the two cyanides than that described, nor could any similar compound of zinc cyanide with other metallic cyanides than that of mercury be obtained. It is

widely known now that this tetra-zincic monomercuridecacyanide has been found to be an admirable surgical antiseptic. Sir Joseph Lister, its introducer, who was present at the meeting, and at whose suggestion the inquiry was undertaken, said that the great value of the salt arose from the circumstance that, while equally effective as an antiseptic, it had none of the irritant qualities of mercuric cyanide, and its slight solubility was an advantage. When mercuric chloride was used it was liable, on the one hand, to be washed away by the discharges of a wound, and, on the other, to accumulate until a solution was formed which was so concentrated that it caused great irritation. He was glad that Professor Dunstan had come to the conclusion that it is a definite chemical compound, because he had not been satisfied from its behaviour that it could be a simple mixture.

STATE SURVEILLANCE OF FOOD IN ITALY.

WE have from time to time remarked on the energy and effect with which Italians are improving their public health laws in respect to which the sale and consumption of deleterious foods and drinks used to be quite a scandalous feature. Under the new sanitary code the risk to the consumer of such dangerous ingesta is becoming rapidly minimised, a fact which cannot but be reassuring to the travelling public, who pass so many of the winter and spring months in the peninsula. Of late years Milanese butter, justly valued for its purity and flavour, has offered a peculiarly tempting field to the adulterator. According to an official statement now before us, the public health officers, for some time on the watch for such malefactors, have come upon the source of an enormous supply of "burro falsificato," sold as genuine Milanese butter at home and abroad. Specimens of this, examined under the microscope with polarised light, have revealed the presence of margarine, whose characteristic crystalline structure was, even in the minutest quantities, put in evidence by this detective means, and this only. A notoriously common and at the same time subtle form of adulteration is thus placed within the immediate cognisance of the public analyst, and the Milanese journals are already congratulating themselves on a discovery which bids fair to rehabilitate the character of one of the chief Lombard industries which was fast becoming fatally compromised. It is to French, not to Italian, initiative, however, that this addition to the public health officer's armoury is due. It was M. Pennetier, of the Chemical Laboratory at Rouen, who devised the method of detecting margarised butter under the microscope by polarised light. But, be its origin what it may, the method has been promptly utilised by the health officers of Italy, to be followed up, we hope, by other and not less efficacious means of food protection in the interests of her own people and of the stranger within her gates.

ELIMINATION OF TOXINES IN ENTERIC FEVER.

MM. ROQUE and WEILL[1] have made some experiments for the purpose of studying the elimination of toxines in enteric fever. The toxic power of the urine is shown by its ability to kill animals when injected subcutaneously. The average quantity which is necessary to kill a rabbit of a given weight determines the normal uro-toxic coefficient. These observers, in their preliminary experiment, allowed a patient suffering from typhoid fever to remain entirely without treatment; they then found that the uro-toxic coefficient was doubled. This they considered to represent the unaided efforts of nature to expel the poison of this disease. That the quantity, however, is insufficient is shown by the fact that the toxicity of the urine remains above the normal for four or five weeks after the fever has abated. When patients are treated by the cold bath method the uro-toxic coefficient becomes greatly increased, attaining an amount equal to five or six times the normal. This increase lessens as the temperature falls and the general symptoms improve, and it falls to the normal at the same time as the fever. This would seem to indicate that the cold bath is a satisfactory treatment, producing elimination of the toxic products, and this agrees with the clinical observation of the success of this treatment in practice. Antipyrin, on the other hand, produces an opposite effect, and when it is employed the uro-toxic coefficient is diminished almost to that observed in health. Several explanations may be given of this action. The antipyrin may act as a direct antidote, preventing the formation of toxines, or it may prevent their excretion or postpone their formation. After the use of this drug the discharge of toxines is found to be enormously increased during the first week of convalescence. Further investigations will be necessary before it can be shown how far each of the above contingencies results from the use of the antipyrin. Teissier has made similar experiments to determine the action of naphthol, and his investigations show that this substance is a true antiseptic, preventing the production of toxic bodies both during disease and convalescence.

[1] La Gazette Médicale de Montreal, Dec. 1891.

NEURASTHENIA AND HYPER-ACIDITY.

THE *Medicinisch-Chirurgische Rundschau* reviews an article by A. Pfannenstill of Stockholm in the *Nordiskt Med. Ark.* on the connexion between the above-named two conditions. Neurasthenia and nervous dyspepsia are, according to the writer, as frequently seen in Sweden as in other parts of the world. A valuable addition to the etiology of these complaints is that all the cases observed by Pfannenstill belonged to the working classes, so that neurasthenia is certainly not confined to the upper classes of society, who are most exposed to the excitement of modern life. Of both complaints a primary and secondary form can be distinguished; but the latter, which is merely a symptom of other affections, especially hysteria, is much the more frequent. Hysteria is more often observed in connexion with a general neurasthenia, in which the functions of the secreting nerves are always disturbed, and we may find in consequence hyper-acidity and hyper-secretion, or subnormal acidity, or even an entire absence of acid. The hyper-acidity is entirely due to an increase of hydrochloric acid. Pfannenstill considers that this hyper-acidity is the result of an increase in the quantity of the gastric juice, and not merely of the hydrochloric acid, and that there is no decrease in the power of absorption. Increased secretion of gastric juice is probably the source of hyper-acidity in other affections of the stomach, and the reverse is probably equally true.

THE SECRETION OF UROBILIN IN CERTAIN DISEASES.

G. HOPPE-SEYLER, assistant in the medical clinic of Professor Quincke at Kiel, publishes in Virchow's *Archiv* some observations on the secretion of urobilin. If urobilin is dissolved in a solution of caustic soda and a small quantity of calomel added, the yellow solution assumes a beautiful rose-red colour. If the solution is then filtered to remove the oxide of mercury, and, after the addition of hydrochloric acid, shaken up with amyl-alcohol, a solution of the red pigment is obtained, which has the same chemical reaction as a solution of urorosein, described some time ago by Nencki and Sieber. Hoppe-Seyler concludes from this fact that urorosein is produced in the same way by the oxidation of urobilin in the system. After a series of analytical experiments he finds that an increase of urobilin in the urine takes place in retention of bile with plentiful diuresis

or when bile still finds its way into the intestine, as in polycholia. The same increase takes place in constipation affecting the large bowel, but not in the case of the small. It is also found in hæmorrhage into internal organs. A fairly normal quantity was found in cases of pernicious anæmia, leukæmia, and pseudo-leukæmia, but a decrease was observed in various cachexiæ, general debility, and in some cases of anæmia as well as in congestion of the liver with arrest of biliary secretion and an absence of diuresis.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—It has been announced that Professor Krause of Göttingen has been appointed to the chair of Pathological Anatomy, but there appears to be some doubt about this appointment. Dr. Karl Moeli, Director of the Asylum at Dalldorf, has been granted the position of Extraordinary Professor.

Berne.—Professor Drechsel of Leipsic has been offered the chair of Medical Chemistry, vacated by Professor Nencki, who is going to St. Petersburg.

Gratz.—For the chair of Dermatology the three names sent up by the Professorial Senate are (1) Professor Jarisch of Innsbruck and (2) Drs. Finger and Riehl (who obtained an equal number of votes), both of Vienna.

Vienna.—Professor Kahler has been obliged to obtain leave of absence on account of his health.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Anton Karsch, Professor of Natural History in the Academy of Münster. He was the author of works on zoology, insects, the flora of Germany and of Westphalia, and of numerous pamphlets on educational questions viewed from a political point.—Professor Karl Saur, who contributed largely to the scientific education of dentists in Berlin, having written on surgery, with special reference to the teeth and jaws, and taught until some four years ago in the Dental Institute.—Dr. Steenberg, Professor of Mental Diseases in Copenhagen.—Dr. Armand de Fleury, Professor of Therapeutics in Bordeaux.—Dr. Barthélemy, Director of the Naval Medical Service at Toulon.—Dr. Victor von Ivanchich, formerly a distinguished operator, at the age of eighty, at Vienna.

PALERMO will be the seat of the next Congresso della Federazione delle Società Italiane di Igiene, which will be held from the 16th to the 20th of May. The organising committee have announced the following special subjects in the programme:—1. On prostitution in relation to existing regulations. 2. On the drainage of seaports. 3. On the hygiene of sulphur mines. 4. On the sanitary inspection of schools.

DR. B. W. RICHARDSON, F.R.C.P., F.R.S., has been appointed physician to the London Temperance Hospital, in the room of Dr. James Edmunds, resigned. The Board at the same time appointed Dr. John Fletcher Little, M.R.C.P., an assistant physician.

THOMAS HUGH DICKSON, M.A., M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Inspector in Her Majesty's Customs, vice Walter Dickson, M.D., R.N., retired by seniority.

GENERAL PRACTITIONERS' ALLIANCE.—We are informed that the meeting of the members of the General Practitioners' Alliance, to consider the draft charter of the Royal British Nurses' Association, will be held at Exeter Hall on Tuesday next, April 5th, at 4 P.M., and not on the 12th, as previously announced.

Pharmacology and Therapeutics.

PARACRESOL AS A DISINFECTANT.

PARACRESOL obtained by Quiriny from wood tar is a more powerful disinfectant than either bromine, chlorine, or cresol. It is soluble in all proportions in water, giving clear, neutral, and almost inodorous solutions. As an antiseptic it is more energetic than carbolic acid, a 5 per cent. solution killing the bacteria of anthrax in ten minutes. An aqueous solution, with a small quantity of glycerine, makes a good wash for the skin in measles and scarlatina, and is especially recommended for use among midwives.

VESICATION BY MEANS OF A SOLUTION OF CORROSIVE SUBLIMATE.

M. Aubert of Lyons publishes an account of a new method of producing vesication. A compress of lint soaked in a solution of sublimate of the strength of 1 to 100 and applied to the skin produces in six or seven hours a blister similar to that produced by cantharides. This blister is of the exact size and shape of the compress, and the serum is said to be aseptic. In applying this method the neighbouring skin must be protected by strapping, and the compress held in its place by a bandage. M. Aubert has made use of this form of blistering in syphilitic acne with good results.

ATROPINE AS A HÆMOSTATIC.

In two cases of profuse metrorrhagia A. N. Dimitrieff has obtained good results by the subcutaneous injection of atropine in doses of 0·0003 gramme. In the first case the hæmorrhage stopped after four injections; in the second after three. Atropine is sometimes of service when other hæmostatics have failed. Dr. Dimitrieff is unable to explain the action of atropine, but it is certain it affects the blood pressure; but whether by acting on the vasomotor nerves or on the vessels themselves, or on the vasomotor centre, is, he considers, doubtful.

THE USE OF CORNUTIN IN HÆMORRHAGE FROM THE GENITO URINARY ORGANS.

A. Meisels, after satisfying himself as to the truth of Kobert's assertions that ergotinic and sclerotinic acids possess vaso-dilator properties, and that sphacelinic acid and cornutin cause contraction of muscular tissue, has treated urethral, vesical, and uterine hæmorrhage with pure cornutin; 0·01 gramme was given daily in divided doses. The results were very satisfactory.

SALOPHENE.

Salophene occurs in small white flakes almost insoluble in water, very soluble in alkaline solutions, in alcohol and ether. Its solution in alcohol is turned violet by perchloride of iron, and gives a bulky white precipitate with bromine water. It is quite tasteless and inodorous, and melts at 187° to 188° C. Alkalies break it up into salicylic acid and acetylparamidophenol. The same change takes place in the body when it comes into contact with the pancreatic or intestinal fluid. It passes unchanged through the stomach. According to the researches of W. Siebel, 88 per cent. is decomposed if given in doses of 2 grammes, but only 69 per cent. if given in doses of from 5 to 6 grammes; thus there is no advantage to be gained by giving more than 5 or 6 grammes during the day. The salophene not decomposed is eliminated by the bowel. The acetylamidoparaphenol is partly excreted by the kidneys, and the salicylic acid can be found in the urine fifty hours after the administration of the drug. Salophene is much less poisonous than salol, the lethal dose for a rabbit being from 7 to 8 grammes, death being caused by the presence of salicylic acid. Siebel comes to the conclusion that salophene is superior to salol, both on account of its want of taste and smell, as well as from its less poisonous properties.

THE EMPLOYMENT OF SICCATIVE LINIMENTS IN SKIN DISEASE.

The *Prager Medicinische Wochenschrift* publishes a communication from Professor Pick of Prague on the use of these liniments. He complains that in the usual formulæ the remedy does not come sufficiently into contact with the skin. To obviate this defect he has made use of bassorin, a constituent of gum tragacanth, prepared in the following manner:—Gum tragacanth, 5 parts; glycerine, 2 parts; water,

100 parts. To this may be added such remedies as ichthyol, storax, Peruvian balsam, chrysarobin, oxide of zinc, the various preparations of mercury, iodol, &c. It will keep any length of time if enclosed in dark-coloured bottles, closely stoppered. Liniments made in this manner seldom produce any constitutional symptoms, as Professor Pick applied a 5 and 10 per cent preparation of tar to the whole body of a patient suffering from psoriasis without ill effects.

ANILINE STAINS.

To take out stains due to aniline dyes, Unna recommends first washing with a 5 per cent. solution of hydrochloric acid, then with oxygenated water, and lastly with alcohol.

ON THE MECHANISM OF THE CLOSURE OF THE LARYNX.

DR. T. P. ANDERSON STUART, Professor of Physiology, University of Sydney, Australia, favours us with the following preliminary communication made to the Royal Society on Feb. 21st, 1892:—

The epiglottis having been displaced from its time-honoured function of closing the larynx as a lid, the paper proceeds to show how, after all, the larynx is closed. Briefly, the closure is effected by, on the one hand, a folding up of the margins of the entrance and an obliteration of the channel of the vestibule from the entrance downwards to the level of the glottis; and, on the other hand, by the well-known movement upwards and forwards of the entire larynx against the base of the tongue, the lower part of the epiglottis intervening, but taking no active part in the process. The observations &c. were made as follows: 1. On a man who has a large hole in the side of the neck, a result of an operation for epithelioma, through which deglutition, simple closure of the larynx, &c., can be observed proceeding in a manifestly perfectly normal manner. 2. On healthy persons examined by the laryngoscope by the author and by two professed laryngoscopists. 3. Experiments on the different classes of animals. 4. The anatomy and comparative anatomy of the parts. 5. The clinical and post-mortem records of morbid conditions When simple closure is to be effected in man, the arytenoid cartilages, enclosed in the mucous membrane (1), are rotated so that the vocal processes (eventually) come into apposition (2) glide forwards on the cricoid articular surface so that the posterior broad part of their articular surface comes to rest on the cricoid, (3) approach each other so that their inner faces are, in part at least, in contact, (4) fold forwards at the crico-arytenoid joint so that their tips come into contact with the lower part of the epiglottis. At the same time the ary-epiglottic folds become tense, pulling inward the lateral margins of the epiglottis, and so deepening its groove to receive the tips of the arytenoids and the Santorinian cartilages. Thus the entrance assumes the form of a squat T-shaped fissure, its transverse limb bounded in front by the epiglottis, behind by the ary-epiglottic folds and its vertical or antero-posterior or mesial—the more primitive—limb by the arytenoid cartilages. The head of the T is curved concave backwards and its stem is short. A slight movement of the entire larynx upwards and forwards takes place—not nearly so much as in deglutition. The epiglottis does not actively move, and in deglutition, for instance, the bolus is seen to glide over its laryngeal surface, its lingual surface being closely pressed against the dorsum of the tongue. But all animals are not alike, and too little account has been taken of differences in the anatomy of the parts, these carrying with them, as they do, differences in their physiology. The foregoing account applies only where, as in man, the arytenoids are long and narrow; where they are high and broad they move more bodily forwards, and where they are low and narrow—i.e., small—neither folding nor movement forwards would suffice to close the orifice, and there the lower part of the epiglottis is permanently bent backwards, so that the contact of the arytenoid with the front wall of the laryngeal cavity is effected with a minimum of movement of the arytenoids, and the true vocal cords are, as it were, under cover of a sort of hood formed by the epiglottis. The exact behaviour of the distal portion of the epiglottis varies; so does the valve of the movement upwards and forwards of the entire larynx, even in individuals of the same species. The arytenoids in their mucous membrane thus form a valve which, when it stands backwards, closes the food channel and draughts the air forwards into the larynx, and when it lies forwards in deglutition closes the air channel and opens the food channel. The external thyro-arytenoid muscles, with the transverse arytenoid muscle, are the agents by which the before-mentioned four movements of the arytenoid cartilages are brought about. The ary-epiglottic muscles tense the edge of the ary-epiglottic fold and cross to the base of the opposite arytenoid cartilage, to avert the tendency they would otherwise have to pull asunder the arytenoids' tips. As worked out in the paper it is seen that a very large number of details in the anatomy of the larynx receive an adequate explanation of this account of the closure of the larynx—e.g., the detailed anatomy of the muscles just mentioned, the sacculus, the structure of the false cord, the crico-arytenoid joint—its surface and ligaments, the anatomy of the larynx and its cavity in the different classes of animals, the epithelial lining, the cavity, &c. "Birds are extremely instructive in this connexion. Here the vocal function is entirely removed from the larynx, so that the larynx has for its sole office the guarding of the entrance of the trachea. Inspection and experiment show the entrance to be closed by the arytenoid cartilages or bones and the thyro-arytenoid muscles. Since this is their function in birds (and the same applies to tortoises, lizards, reptiles, frogs, &c.), is it not all the more likely to be at least a function in mammals?" The plane of the larynx at the level of the glottis corresponds to the larynx in its more primitive forms—linear when closed, lozenge-shaped when open, bounded exclusively by cartilage and muscle. In man the vocal function has been superadded; all that lies above the level of the glottis has been built up on that level, and the vibrating property has been got at a physiologically cheaper rate through fibrous than through muscular tissue.

THE VENICE CONFERENCE ON THE SANITARY CONTROL OF THE SUEZ CANAL.

THE French Government seems well satisfied with the results of the Venice Conference. We have seen some of the persons most intimately concerned in these negotiations, and they have cordially admitted that the articles published in THE LANCET contributed largely to dissipate the misunderstanding which prevailed. In England and in India an impression had taken root that the French were anxious to establish some antiquated form of quarantine in the Suez Canal. The French delegates to the Venice Conference maintain, on the contrary, that their proposals were not opposed to commercial interests, while they gave increased guarantee for the interests of public health Undoubtedly, if these proposals seemed so new to the English, it was because, as we have already pointed out, no proper opportunity was given to fully discuss the matter at the London International Congress of Hygiene. But now the French are as reticent as they were ready to discuss last August. Everyone is agreed, and they are therefore anxious not to reopen the discussion. Lord Salisbury has declared that he must first read the full printed reports, and these, being in the hands of Italian printers who cannot understand English, the work of setting up the type is fraught with all manner of petty difficulties. In a few days, however, it is thought that the documents will be ready, and will be submitted to Lord Salisbury. It is thought probable in French governmental circles that the approval given by the English delegates at the Venice Conference will then be confirmed at head-quarters, and the protocol signed.

So far as we are able to gather, we have reason to congratulate the representatives of the French Government on having recognised that quarantine was not in harmony with our modern knowledge and methods. Dr. Brouardel and Dr. Proust both acknowledged that medical inspection and disinfection were preferable to the old system of quarantine. They went further, and declared that disinfection could be carried out in a thoroughly efficacious manner with a very small loss of time. This is an assertion which some persons in England may be inclined to deny, the fact being that with one or

two exceptions the methods and apparatus employed are very imperfect. In France, where disinfection is not obligatory, where it is often neglected, it will be found that, on the rare occasions when it is employed, it is managed in a more scientific and thorough manner than is generally the practice in England. For instance, while in England many sanitary authorities are content to expose contaminated bedding and clothes in a clumsy sort of stove where dry heat only is produced, and this rarely to more than 220° F., all the disinfecting stoves in France are filled with superheated steam under pressure, and great care is taken that the intensity of heat is equal in every part of the apparatus. Under such circumstances disinfection is much more reliable, and can be more rapidly applied. It was the improved methods of disinfection which the French delegates submitted to the Venice Conference, and these improvements rendered what seemed at first an impracticable suggestion comparatively easy to carry out.

Ships coming through the Suez Canal will be, we are told, classified in three categories. There will be, first of all, ships about which nothing can be said, no shadow of suspicion resting upon them. Such ships will pass through the canal without let or hindrance. The second category will consist of ships that have sailed from a port where cholera is known to prevail, even though there may not be any case of cholera for seven days previously to the departure of the ship. This category is to be qualified as that of the "suspects." These suspected vessels, which, according to the old methods, would have been placed in quarantine, will simply be disinfected. Very powerful and large disinfecting stoves are to be established, and bedding and personal apparel will be promptly purified by exposure to superheated steam under pressure. The English delegates suggested as an amendment to this proposal that mail ships, if they carried on board disinfecting stoves, should be exempted. This amendment was accepted on the double condition that the disinfecting stove carried on board must be of an approved pattern, and that the ship's surgeon must be appointed by Government. The surgeon would have to guarantee the perfect salubrity of the ship, or else supervise the thorough disinfection of all that was on board and likely to be contaminated. These conditions were accepted, and it was even suggested that other vessels besides the mail ships might be allowed to pass straight through the canal if there was good reason to believe that the doctor in each case would cause everything to be properly disinfected before reaching Suez. The English delegates made one more stipulation—namely, that in the case of troopships, only that portion of the ship occupied by troops coming from a contaminated port should be disinfected. The third category consists of contaminated ships—namely, ships on which cases of cholera have occurred during the voyage. In that case the disinfection practised will be much more rigorous, and will require longer time. Still the delay is never to exceed five days, and generally it will be less than this. Such possible delay of five days may seem somewhat alarming; but if the future may be judged by the past, it is not likely to make any practical difference with regard to the rapidity of our communications or the facilities of our commerce. According to a calculation made at the conference, it was found that during the last seven years only three English ships would have been placed in the third category. The French delegates thereupon were able to urge with much success that it was better to stop for a short time one ship every two years than to run the risk of contaminating the Mediterranean with so fearful and dangerous a scourge as that of cholera.

To carry out all these regulations it was proposed to establish a Sanitary Department at Suez, and to modify the Sanitary Council of Alexandria. Four medical men will be permanently on duty at Suez. They will constitute the executive of the Alexandria Committee, and will decide whether the ships arriving at Suez have fulfilled the above stipulations and can be allowed to pass through the canal. The Sanitary Committee is to be reduced from twenty to seventeen members; but, on the other hand, there will be an increased expenditure for the maintenance of the medical men at Suez, for the disinfecting services, &c. This is to be met by a tax of 10*d.* on each passenger going through the canal, but soldiers and functionaries are to be exempted. Then there will be a very slight increase on the tonnage dues for ships going through; and finally, there is a surplus balance resulting from the tax raised for the maintenance of the lighthouses. All these sources of income will amply suffice to produce the £6400 per annum which it is estimated the new services will cost.

The French delegates to the Venice Conference are unanimous in recognising the readiness with which the English representatives took in hand the French proposals and studied them in a manner which conclusively proved how strong was their desire to come to a common understanding. The *Journal des Debats* and other important organs of public opinion in France have expressed much satisfaction with the Venice Conference. If all international negotiations were dominated by the same spirit as that which prevailed among the sanitary reformers who met at Venice, it would be very difficult indeed for any international misunderstanding or quarrel to arise. It is urged, therefore, that the Venice Conference should be taken as a model; and we are not a little gratified to find that medical men have succeeded in giving so good an example to the diplomates of all countries.

On one or two points the English delegates found themselves in a very small minority. There were fourteen powers represented at the Venice Conference. The English proposed that even contaminated vessels should be allowed to pass through the Suez Canal on condition that they displayed the quarantine flag, that they had no communication whatsoever with the shore, and that they were bound direct to an English port. This proposal was defeated by ten votes against four, the representatives of the Triple Alliance alone voting for the English proposal. The English delegates were also opposed to the reduction in the number of members of the Alexandria Sanitary Committee. This reduction from twenty-two to seventeen members was to be effected by nominating only four instead of nine Egyptian Commissioners; but, as the Egyptian Commissioners are in reality appointed by the English, the proposed alteration will practically result in imparting to the Alexandria Sanitary Committee a more international character. This international character was marred by the exaggerated predominance of English influence. To these arguments the English delegates refused to assent, and, the matter being brought to a division, twelve nationalities voted in favour of the proposal and two against. The German representatives alone voted with the English. Consequently, the Alexandria Sanitary Committee is to be reduced from twenty-two to seventeen members by curtailing the number of Egyptian representatives from nine to four. Out of the fourteen nationalities represented the delegates of ten nationalities at once signed the agreement, but the delegates of England, Denmark, Belgium, and Turkey desired to refer the matter to their respective Governments. Since then Denmark and Belgium have sent in their approval; the signatures of England and Turkey alone are wanting.

There is one point on which the attitude of the French is somewhat inconsistent. Dr. Proust and Dr. Brouardel showed that they were imbued with modern ideas, and proclaimed their faith in sanitary measures and disinfection instead of quarantines. But in France the only statute that exists on this subject is the statute or *règlement* of 1876, which most emphatically establishes quarantines. The French sanitary authorities, acting under the enlightened guidance of Dr. Proust and Dr. Brouardel, may not apply these old regulations, but still they exist; and it would make the French position stronger with regard to Suez Canal negotiations if they were abolished. An English ship may satisfy the sanitary authorities at Suez, and yet find itself placed in quarantine on reaching Marseilles. Have we a sufficient guarantee that the methods of protection approved by the French sanitary authorities as applicable at Suez would be also applied at Marseilles? This is, of course, quite a secondary question. Our great interest is with the Suez Canal and not with the French ports. Nor are the French alone inconsistent in this matter. Other nations would resort to quarantine in their own waters, though they seemed quite satisfied with disinfection and medical inspection at the Suez Canal. The fact that at the great international sanitary station of Suez more enlightened views are to be enforced will serve as an object lesson to all countries, and doubtless the French and other nations will soon follow this example. The decisions of the Venice Conference are undoubtedly a very great advance on the opinions entertained by most continental Powers with respect to quarantines, and as such should be heartily welcome.

POISONOUS CIGARETTES.

INTELLIGENCE of a startling kind not unfrequently comes from the United States, and that recently to hand will no doubt create some amount of alarm in the now wide circle of cigarette smokers. It appears that the Congress of the States is being urged to suppress the cigarette by taxing it at the rate of 10 dols. per 1000. The promoters of the measure state that cuttings taken from the newspapers throughout the States show that during the past year there have been about 100 deaths of young men, mostly under sixteen years of age, from the effects of smoking paper-wrapped cigarettes. In some cases, it is averred, an analysis of the contents of the stomach has been made, and in most instances there have been found phosphorus and arsenic, the latter being a substance, it is said, largely used in the manufacture of cigarette paper. About a hundred men, the report further goes on to say, have been consigned to "insane (*sic*) asylums" from the same cause. Meanwhile the Legislature of Ontario has just read a second time a Bill introduced by the Premier, prohibiting the use of cigarettes by anyone under the age of eighteen. Under this Act the penalty for smoking will be a fine of from one dollar to five dollars, while those who sell cigarettes to persons under eighteen will be fined from ten to fifty dollars. Whether it be a matter for legislation or not, it will be generally conceded that the growth of the habit of smoking amongst mere juveniles is a thing to be deplored. It is a matter of everyday observation now that boys of from even twelve to, say, eighteen years of age indulge in what is rightly regarded as a habit decidedly injurious to those who have not reached maturity. We are, however, strongly inclined to doubt whether the paper of the cigarettes referred to above contained any arsenic or phosphorus. Such a paper, if it contained phosphorus in the elementary condition, and in quantity to be injurious, would impart a twang to the palate of the smoker which we imagine would hardly be relished. Moreover, phosphorus is a very unstable body, and in contact with air would rapidly change into oxidised products, which are highly deliquescent, considerably less poisonous, and if present in large quantity would render the paper quite wet. Why arsenic should be required in the preparation of cigarette paper we are equally at a loss to imagine. The very best material for this purpose need consist of nothing but the purest rice paper. A few years ago stories were in circulation in this country in regard to the noxious effects produced by the smoking of Egyptian cigarettes said to contain foreign substances, and the matter was considered sufficiently important to merit experimental inquiry. This was undertaken by our Analytical Sanitary Commission, the report of which is to be found in THE LANCET of Oct. 20th, 1888, p. 785. Summing up the results of our investigation, we reported as follows:—"The cigarettes which we examined were made from genuine tobacco. No foreign substance, and particularly no opium or other alkaloid, was added. The paper and the cement were pure, the only possible objection being the trace of copper found in the ash, which is probably due to the metallic lettering." The several samples then selected, though Egyptian, were regarded as fairly representative. If it be true that the paper used as wrappers for cigarettes in the United States are treated with, and contain, phosphorus and arsenic, the remedy is an easy one. Such procedure in the preparation of cigarettes should of course be prohibited; and just as articles of food are condemned in this country if they contain substances injurious to health, so should cigarettes containing any substance of a foreign nature be not only condemned, but seized and destroyed. The detection of both arsenic and phosphorus is a simple matter, which every analyst can perform; indeed, free phosphorus could be detected by anybody, since the cigarette paper containing it would glow in the dark. But we must confess an inclination to doubt whether either of these substances has actually been found in the articles in question. Should any members of the profession have occasion to suspect cigarettes to contain objectionable substances like those indicated, we should be glad to submit them to our analytical staff for examination, and, as on a previous occasion, to duly report the results in our columns.

THE MANUFACTURE OF BLEACHING POWDER AND WHITE LEAD.

THE SUFFERINGS OF WORKERS ENGAGED THEREIN.

THE task of the recently constituted Labour Commission is a heavy one, and it is to be hoped that it will be crowned by results which will materially assist in not only improving the condition of the labour market, but also in reducing the hardships and trials of many an honest labourer. Not the least important result of the inquiry must be an awakening of the community at large to the fact that in many trades the conditions under which the men work are far from healthy, and in many instances positively injurious, tending to shorten the life of the unfortunate *employés*. Already many startling statements have been made by witnesses in the Miscellaneous Trades Section, under the presidency of Mr. Mundella. The secretary of the National Amalgamated Society of Coopers, Newcastle-on-Tyne, for instance, gave evidence on March 18th concerning the conditions of labour in various chemical works. Respecting the manufacture of bleaching powder, he said that the conditions of work in factories where the heading-up of casks of bleaching powder is carried on are very unsatisfactory. This work is done in large chambers, and after the cask is filled with material the end has to be put in and fixed so that the bleaching powder shall retain as much gas as possible. In order to avoid the injurious effect of the gas given off by the powder the men have to wear a flannel muzzle. The muzzle, it was stated, is put over a man's mouth and nostrils and tied tight round; it was used by the chemical workers themselves as well as by the coopers. The men dropped down in these packing chambers, even with the muzzles on, overcome by the deadly gas. They were able, when wearing the muzzle, to breathe a little through the nostrils, but they were supposed to breathe through the folds of flannel to avoid the gas as much as possible. The nostrils had to be saturated with oil, and the oil was put on round their eyes and eyelashes and other exposed parts. They worked an hour at a time, and then came out to get fresh air. In their Society was one man who was suffering through inhaling gas under these conditions, and he (the witness) did not know whether he was alive at the present moment. The men got 6*d.* a ton for this work; so that, if a cask held 5 cwt., they would have to head up four to earn 6*d.* They worked fifty-three hours a week, and were often called upon in the night. The detrimental effect of the gas shows itself in the respiration of the men. A man has sometimes been noticed to scarcely breathe, and if anyone has been indulging in smoking the witness has seen them compelled to hold their handkerchiefs over their mouths; they are afraid to inhale any tobacco smoke, because it gives them a severe fit of coughing. In many places he had never seen an inspector, though he had heard of an inspector visiting them. They always knew when an inspector was coming, because the factory was always cleaned up, which indicated that notice of his visit had been given. In the bleaching-powder factories the lime for the powder was laid down about five inches thick in a large chamber. The doors were then sealed up and the chlorine-gas was put into the room, which were left sealed until such time as the lime absorbed the chlorine. Then the men, wearing muzzles such as had been described, went into the chambers and put the bleaching powder down through the shoots underneath, where there were casks to receive it. In addition to this muzzle they had to wear goggles over their eyes, and then on any portion of the skin that was exposed they had to put tallow or grease. Most of these men could not eat any food until they took a stimulant, such as whisky or rum. The men in all the yards were liable to be "gased." As an instance of this, there were two works in St. Helens—one known as the Sutton Lodge and the other as Kurtz's. Sutton Lodge was about 500 yards distant from Kurtz's, but the men in Kurtz's had had to run for their lives when the gas came over in large volumes from Sutton Lodge as the chamber doors were opened. One of them had seen a horse fall down in consequence of getting "gased" in Kurtz's yard. The works were divided into a bleaching-powder department, a vitriol department, a black-ash department, a salt-cake department, a caustic department, and a chlorate department.

The bleaching department was the most dangerous. The men at the salt-cake department had to keep what they call a rag in their mouths, through which they breathe, and the teeth of these men are generally black and worn down to the gums. Every man inside a chemical works is likely to get gased—in fact, those living outside a works get afflicted more readily with bronchitis than people living in other districts, owing to the proximity of the factory. The men employed in this industry suffered more generally from disease than men in other industries, and he did not believe they lived so long.

The men in the white-lead factories were subject to the poisonous effects of the lead. They had to head-up casks in a way similar to that adopted in the bleaching factories. While they were knocking in the covering of the cask they were involved in white-lead dust, which they inhaled. He had known some of the members of their Society suffer from twisted joints from the action of the lead in the system. Lead poisoning was quite a common occurrence with the workers, and with young people especially. He had seen comparatively young women with their hands so that they could not take the pay when it has been put upon the table—they could not pick it up, and they had to wipe it off the table; they had not the power to pick anything up. He thought greater precaution might be taken than was at present done, and that it would be well if the inspector would not notify the employers when he was coming, so that he could see the operatives working under ordinary conditions. It might be possible to have a shoot in the "ovens," and the white lead might be put into the shoot, and so come direct into the cask. If that were done, it would remove nine-tenths of the difficulty that was caused now.

These are a few facts culled from the enormous mass of evidence which lies at the disposal of the members of the Commission, and we can only express the hope that instances of even a worse kind will not be forthcoming.

HUMPHREYS' PATENT IRON HOSPITALS AND OTHER BUILDINGS.

IT is probable that our readers are already acquainted with these structures, but in case they are not we desire to call attention to them, because the system admits of their being furnished of all sizes and capable of fulfilling a variety of purposes and requirements in everyday life. The designs are for iron churches, chapels, schools, hospitals, cottages, bungalows, offices, barracks, canteens, station buildings, workshops, &c. The buildings are of corrugated galvanised iron, lined with match-board, with a padding of felt between the two, and the construction admits of their enlargment when necessary. They are stated to be warm in winter and cool in summer, and are consequently adapted to all kinds of climates. The windows and doors can be supplied according to requirements, together with such an amount of ridge and other ventilation as may be deemed necessary. The wall framings are constructed of timber, morticed and tenoned, not spiked, so as to be easily taken down and re-erected. The interior is supplied throughout with match-boarding. The flooring is of planed boards one inch thick. The whole of the roofs, gables, and walls are lined throughout with felt, allowing an air space between match-boarding, purlins, and iron. The foundation required is of about two- to four-course brickwork, a ground plan of which is supplied to the local bricklayer. These buildings can be very quickly put up, and, as we have said, are of almost any size and character, and are said to last thirty or forty years. They can of course be fitted as required with stoves for warming, hot-water apparatus, bath and lavatory, and other offices. We think them well adapted for small hospitals for the isolation of infectious and other diseases, as well as for numerous other purposes that may be easily imagined, and they have the merit of being cheap. We would counsel anyone requiring any structure of the kind to visit the works at Knightsbridge and inspect some of those on view and the plans of buildings of various kinds.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Torquay Urban District.—Mr. Karkeek has before pointed out that increase of population in Torquay can hardly be expected; its area is limited, it is becoming more and more reserved for business purposes, whilst residences are being erected in the outside suburbs. Indeed, the population has only increased by 757 during the past decennium. The death-rate on over 25,000 people was 13·8 per 1000 last year, and it included some diphtheria deaths. This disease is believed to have been absent from Torquay for many years, and it certainly has not existed there in a fatal form; but under meteorological conditions involving much dampness and depression of vital powers the disease prevailed off and on, causing eleven attacks spread over the greater part of the year. Improvement is going on as to the housing of the working classes, and houses that are found unfit for human habitation are being closed.

Millom Urban District.—The death-rate for this district was 14·6 per 1000 during 1891, and Mr. Butler Stoney shows that little of the mortality was due to zymotic causes. The general health of the district is stated to show improvement, and this change is going hand-in-hand with the substitution of watercloset for the old midden privies. The work in this direction is, however, by no means finished, for it is reported that no less than 8169 middens were emptied during the year. So long as those structures which cause nuisance and tend to ill-health are, in the first instance, dealt with, the local authority will probably find enough to do, and the effect will be one beneficial to the individual occupiers and to the district generally.

Caxton and St. Neots Districts.—The water-supply question for the villages is difficult of solution; the existing arrangements are bad, and it is feared that such amendments as would really be satisfactory would involve an expenditure that could not well be borne. The town of St. Neots suffers in a similar way, and unless the authority soon get a proper supply from the East Huntingdon Waterworks Company, they should proceed with another scheme. In the three districts combined the death-rate for 1891 is calculated by Mr. Poyntz-Wright as high as 17·9 per 1000; but this was largely due to pulmonary diseases. The need for an isolation hospital is again put forward in the report, which contains an excellent statistical appendix.

Maldon Rural District.—Dr. Thresh has issued a very complete report on the sanitary circumstances of this district. It includes a reference to its shortcomings, but, on the other hand, it tells of substantial progress, such as an attempt to get better water for Southminster, the preparation of plans for the sewerage of Tolleshunt D'Arcy, and systematic inquiry into the condition of the dwellings of the poorer classes. One evil referred to as regards the latter is the damp brick flooring on which children crawl about, to the danger of their lives from pulmonary and other diseases. To a large extent the district is supplied with privies, and elsewhere hand-flushed closets are in use. These latter are found to be objectionable, and it may turn out that where sewers are available automatically flushed sink-waterclosets may meet the difficulty. Dr. Thresh has more than once referred to a connexion between London manure and diphtheria, and he gives further information in this report as to the same apparent connexion in the case of an outbreak at Tolleshunt D'Arcy. The death-rate from all causes was 15·1 per 1000 for 1881–90, and it was 16·3 last year.

Stretford Urban District.—According to the last census, the death-rate during 1891 was 17·5 per 1000 living, and the zymotic rate 2·0 per 1000. Under the notification system 81 cases were reported, 41 being scarlet fever, 21 enteric fever, and 15 diphtheria. Isolation is carried out, and in the case of houses under £20 rental per annum no charge is made for the use of the fever hospital. This, it may be hoped, is a first step towards free admission into a building purchased and maintained at the cost of all the ratepayers, whether living in cheap or more expensive houses. Mr. W. Heslop gives a general account of the different sanitary circumstances of the district, and of the action taken during the year. He regrets the delay in re-sewering the district,

and he gives details as to a number of amendments which have been carried out.

Sutton Coldfield Urban District.—In dealing with zymotic diseases in this district, Dr. Bostock Hill refers to an outbreak of scarlet fever which was associated with the use of a special milk-supply. The case has already been brought before the Society of Medical Officers of Health, and we need only here refer to it in connexion with the proof afforded of the relationship between the disease and the milk, and of a relationship of the occurrence with a diseased condition in one of the milch cows in the dairy in question. Eruption and sore on the udder, coat rough and staring, raised temperature of body, hairless patches, &c., recall to mind the condition of cows in the Hendon case, as also does the veterinary certificate, to the effect that the cows were healthy. This latter is dealt with by Dr. Hill, who maintains that judgment as to healthiness in a cow should not be formed on the question whether they "eat well and milk well." Many a convalescing case of scarlet fever in a mother might come under the same description and yet be highly infectious. The report also deals fully with the sanitary state and requirements of the district; and the general death-rate for 1892 is given as 18·60 per 1000, the chief cause of the excessive mortality being the influenza epidemic.

West Hartlepool Urban District —Dr. S. Gourley appends to his report a very useful chart indicating the localities in which cases of the various infectious fevers have occurred; the zymotic rate was 2·0, most of the fatality being due to diseases especially affecting childhood, such as whooping-cough and diarrhœa, and in this connexion it is pointed out that half the total deaths occurring at all ages were in children who had not yet reached five years of age, a matter calling loudly for immediate measures of prevention. Some substantial but much-needed repair of sewers has been carried out. The scavenging is fairly done, but would, as in most cases, be more efficient if done by the authority rather than by a contractor, and the water-supply is good. The general death-rate for 1891 was 17·2 per 1000.

Hartlepool Rural District.—Here Dr. Gourley reports a death-rate of 18·0 per 1000 living, but the zymotic rate was only 1·3. Notification favoured the prevention of scarlet-fever and diphtheria by facilitating early measures of isolation and school closure. Care is taken to look after the cow-byres, but although improvements have been effected, further measures are still called for. One important requirement, so often prominent in rural districts, calls for attention. It relates to the need of rain-spouting, a matter to which Dr. Gourley rightly calls attention; for the absence of it leads to saturation of subsoil and foundations with wet, and is often associated with the excessive incidence of pulmonary consumption.

Scarborough Rural District.—This district had a general death-rate of 15·9 per 1000 last year, and in referring to this Dr. Cuff discusses the question of influenza and its effect on the death-rate. His experience is that the period of incubation varies from a very brief one to five or six days, and that the disease is infectious during the first twenty-four hours. The infectious diseases that prevailed are considered in connexion with their causation, and a description is given of the general sanitary circumstances of the district. Water-supply is especially referred to, and it is satisfactory to note that services from extraneous sources are being delivered to villages and populous places. The houses of the working classes are also looked to, and instances are given in which overcrowding has been abated.

Hastings Urban District.—This seaside resort had a population of 52,223 at the last census, and the death-rate last year was 16·9 per 1000, the increase over the mean being due to pulmonary diseases following on influenza and severe weather. The increase in diphtheria fatality is very serious. The average number of deaths per annum during the previous ten years from this cause was 4·8, but no less than 23 such deaths occurred last year, and, so far as cause is concerned, the report merely says that most cases were apparently due to defects in domestic sanitation, an experience which by no means clears up the real point at issue. Indeed, the whole subject of this serious fatality is, after reference to some previous report, dismissed in a few lines. Improvements are stated by Dr. Scarlyn Wilson to have been carried out at the iron isolation hospital, where fifty persons were isolated; and it is added that, out of 210 cases of scarlet fever received into the hospital during the past four years, no single case has terminated fatally.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 5995 births and 4348 deaths were registered during the week ending March 26th. The annual rate of mortality in these towns, which had increased in the preceding three weeks from 20·5 to 24·8 per 1000, declined to 22·3 last week. In London the rate was 28·3 per 1000, while it averaged 22·9 in the thirty-two provincial towns. The lowest rates in these towns were 9·9 in Brighton, 12·8 in Croydon, 13·6 in Derby, and 16·3 in Hull; the highest rates were 29·6 in Preston, 31·0 in Halifax, 35·0 in Oldham, and 37·2 in Huddersfield. The 4348 deaths included 435 which were referred to the principal zymotic diseases, against numbers increasing from 390 to 477 in the preceding three weeks; of these, 192 resulted from whooping-cough, 120 from measles, 48 from diphtheria, 32 from diarrhœa, 27 from scarlet fever, 16 from "fever" (principally enteric), and not one from small-pox. No fatal case of any of these diseases was registered in Plymouth; in the other towns they caused the lowest rates in Brighton, Croydon, and Preston, and the highest rates in Norwich, Salford, Sheffield, Bolton, and Wolverhampton. The greatest mortality from measles occurred in Liverpool, Sheffield, and Birkenhead; from scarlet fever in Cardiff; and from whooping-cough in Burnley, Sheffield, Bristol, Blackburn, Wolverhampton, and Bolton. The mortality from "fever" showed no marked excess in any of the thirty-three large towns. The 48 deaths from diphtheria included 30 in London, 3 in Manchester, 3 in Sheffield, and 2 each in West Ham, Birmingham, and Salford. No death from small-pox was registered either in London or in any other of the thirty-three towns; 35 cases of this disease were, however, under treatment in the Metropolitan Asylum Hospitals on Saturday last (of which 21 were admitted during the week), and 7 in the Highgate Small-pox Hospital. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1226, against 1202 and 1230 on the preceding two Saturdays; 126 new cases were admitted during the week, against 96, 117, and 146 in the previous three weeks. The deaths referred to diseases of the respiratory organs in London, which had risen in the preceding three weeks from 379 to 523, declined again last week to 466, and were 35 below the corrected average. The causes of 86, or 2·0 per cent., of the deaths in the thirty-three towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Croydon, Brighton, Norwich, Sunderland, and in four other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Nottingham, Salford, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the preceding three weeks from 22·5 to 24·2 per 1000, declined to 23·4 during the week ending March 26th, but was 1·1 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 19·1 in Dundee and 19·6 in Edinburgh to 24·8 in Greenock and 26·2 in Glasgow. The 650 deaths in these towns included 34 which were referred to whooping-cough, 12 to measles, 9 to diarrhœa, 8 to diphtheria, 5 to "fever," 1 to scarlet fever, and not one to small-pox. In all, 69 deaths resulted from these principal zymotic diseases, against numbers increasing from 62 to 71 in the preceding four weeks. These 69 deaths were equal to an annual rate of 2·5 per 1000, which slightly exceeded the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 29 and 28 in the preceding two weeks, rose again last week to 34, of which 21 occurred in Glasgow, 3 in Edinburgh, 3 in Aberdeen, and 2 in Leith. The deaths referred to measles, which had been 16 and 15 in the previous two weeks, further declined to 12 last week, all of which were recorded in Glasgow. The 8 fatal cases of diphtheria exceeded by 3 the number in the preceding week, and included 3 in Glasgow, 2 in Dundee, and 2 in Aberdeen. The deaths referred to different forms of "fever," which had declined from 8 to 4 in the preceding three weeks, were 5 last week, of which 3 occurred in Glasgow and 2 in Dundee. The deaths referred to diseases of the respiratory organs in these towns, which had been 134

and 183 in the preceding two weeks, were 181 last week, and exceeded by 15 the number in the corresponding week of last year. The causes of 57, or nearly 9 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the preceding three weeks from 32·7 to 36·8 per 1000, further rose to 40·1 during the week ending March 26th. During the past twelve weeks of the current quarter the death-rate in the city averaged 38·5 per 1000, the rate for the same period being 28·7 in London and 19·9 in Edinburgh. The 269 deaths in Dublin during the week under notice showed an increase of 22 upon the number in the preceding week, and included 22 which were referred to measles, 5 to whooping-cough, 3 to diarrhœa, 1 to "fever," and not one either to small-pox, scarlet fever, or diphtheria. In all, 31 deaths resulted from these principal zymotic diseases, equal to an annual rate of 4·6 per 1000, the zymotic death-rate during the same period being 2·7 in London and 1·2 in Edinburgh. The fatal cases of measles, which had been 12 in each of the preceding two weeks, rose last week to 22, and exceeded the number recorded in any week since August, 1887. The deaths referred to whooping-cough, which had declined from 8 to 5 in the previous three weeks, were again 5 last week. The 3 fatal cases of diarrhœa exceeded the number in any recent week. The 269 deaths in Dublin last week included 32 of infants under one year of age, and 97 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons considerably exceeded those recorded in any recent week. Seven inquest cases and 3 deaths from violence were registered; and 94, or more than a third, of the deaths occurred in public institutions. The causes of 24, or nearly 9 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

THE farewell banquet to Surgeon-Major-General J. Sinclair by the officers of the Medical Staff quartered in Ireland took place at the Shelbourne Hotel, Dublin, on Thursday, March 31st, when a large assembly of guests was present. Surgeon-Major-General Sinclair has earned deserved popularity with the officers of his department during the time he has filled the position of Principal Medical Officer in Ireland, and his retirement, although compulsory on completion of sixty years of age, is much regretted. Surgeon-Colonel W. Collis, now Principal Medical Officer, Cork, will, as previously announced, succeed Surgeon-Major-General Sinclair.

The death is announced of Brigade-Surgeon William Jobson on March 21st at Edinburgh.

ARMY MEDICAL STAFF.—Surgeon-Colonel Alexander Frederick Bradshaw, C.B., to be Surgeon-Major-General, vice W. Thomson, M.B., retired; Brigade-Surgeon-Lieutenant-Colonel Charles Henry Young Godwin to be Surgeon-Colonel, vice A. F. Bradshaw, C.B.; and Surgeon-Lieutenant-Colonel Philip Lefeuvre Kilroy to be Brigade-Surgeon-Lieutenant-Colonel, vice C. H. Y. Godwin (all dated March 10th, 1892); Surgeon-Captain Richard Hugh Penton is seconded for service with the Egyptian Army (dated Feb. 12th, 1892).

NAVAL MEDICAL SERVICE.—The following appointments have been made at the Admiralty:—Staff Surgeon Robert W. Biddulph to the *Sirius* (undated); Surgeon Robert W. Senior to the *Sirius* (dated April 5th, 1892).

HOSPITAL AND DISPENSARY, SCARBOROUGH.—During the past year substantial progress appears to have been made towards providing a new hospital, the erection of which was determined upon at the last annual meeting. A site in Westgate has been obtained, on which the new building is being erected. The honorary treasurer's statement of accounts showed a balance in hand of £91 2*s.* 7*d.* The report concludes with a sympathetic reference to the loss the hospital has sustained by the death of the late Dr. John W. Taylor, who for twenty-one years had rendered the institution continuous valuable services in several important official posts.

Correspondence.

"Audi alteram partem."

THE OPIUM QUESTION.

To the Editors of THE LANCET.

SIRS,—As you have given your adhesion to the anti-opium agitation, and as 5000 medical men have signed a declaration to the same effect, the opportunity seems a favourable one for clearing up some difficulties which surround this controversy. We have had a good deal of declamation, many dogmatic statements, and much sentiment of a highly respectable kind; but the solid foundation of fact on which this fabric should be built lacks stability, if indeed it can be said to exist at all. It is obvious that unless satisfactory proof can be given of the disastrous effects of the opium habit on the human constitution, England must be allowed to leave the court without a stain on her character. I have long been trying to get this information, but until now I have completely failed. But observing among the names of those who have memorialised the Government on the anti-opium side professors of materia medica, of pathology, and of medicine, physicians and surgeons to large hospitals, and others of our professional leaders, I invite them to step out and enlighten our darkness. They can hardly have lent the weight of their authority without full knowledge and consideration and an ample sense of the responsibilities attached to their position.

It is surely not too much, therefore, to ask them to justify the faith that is in them by supplying information on the following points:—1. Does the opium habit directly shorten life? 2. Has any death been certified as due to opium eating or smoking? 3. What are the symptoms observed by competent medical observers? 4. Give some pathological detail of the tissue degenerations noted. 5. Admitting that morphia is not volatilised by heat, but is largely if not entirely destroyed by the heat of the pipe, which constituent of opium causes the alleged ill effects? 6. Is it not the case that the Sikhs and the Rajpoots, the finest and the most warlike races of India, take opium regularly and thrive on it? 7. Is it not equally the fact that large numbers of the educated Chinese also take opium regularly without bad results? Some answer to these queries, couched in good set scientific phraseology, and backed up with statistical detail, will be of great service to the cause of truth. I am, Sirs, yours faithfully,

Reform Club, March 28th, 1892. ROBERT FARQUHARSON.

To the Editors of THE LANCET.

SIRS,—I thank you for the consideration which you have given to the contentions of the side I take on the opium question; but I do not allow your argument to be conclusive. The habit of opium smoking is not more unnatural than the majority of popular indulgences; and every indulgence is justified by a certain amount of therapeutic or tonic effect which it produces. More than 15,000 Chinese coolies, the greater part of whom smoked opium, passed through the hospitals of which I had superintendence, and I decidedly hold that the popular use of alcohol does more harm than the use of opium. I asked you to compare the Hindoo who takes alcohol with the Chinaman who takes opium, and have no doubt that the Chinaman will be found the less deteriorated of the two. So much for the question as to which is the greater evil. The task you now set before us is to make the Chinaman moral and temperate by restricting his alcohol and limiting his opium smoking. It is a hopeless task. India supplies the best opium under elaborate safeguards. Stop its production in India, and you will very much harm the cultivators and cripple the resources of the Government, while you will not benefit the Chinaman. Large amounts of opium are readily procured from South-west China, although, on account of its inferior quality, it does not sell in competition with the Indian article, but abundance of opium can always be got. When it is shown to be possible to efficiently regulate the sale of all luxuries which may be noxious by unrestrained use, it is time for Government to interfere. But even in England a way has not been found to limit the sale of alcohol and opium to purely therapeutic purposes. We

have not stopped the abuse of alcohol at home any more than we can stop the use of opium in China. But the Indian Government exerts itself to minimise the injurious use of the drug. It is not in the power of the authorities to extirpate a national habit. Indian opium is much more expensive than native Chinese, and in consequence less used by the poorer classes than by the well-to-do. It is an important consideration that probably the composition of Indian and Chinese opium is different, and that the proportion of the alkaloids varies. I believe that the finer quality of Indian opium is less injurious and causes less ultimate mischief than the other coarser varieties. Until it is absolutely guaranteed that alterations in the present system of production will not cause additional harm, by the extension of the use of alcohol or otherwise, it is well to remember the motto, "*Quieta non movere.*" The practical question is not really affected by the fact that a single overdose of opium is much more serious than a single overdose of alcohol. It is a consideration regarding habitual use which is before us. I see no reason to alter my previous conclusions:—1. The habitual use of opium is not so dangerous nor so degrading as the "anti-opium party" represents. 2. The importance of forbidding the export of opium from India with a view to lessening its consumption in China has been exaggerated. 3. To place restrictions under present circumstances on opium consumption is likely to cause harm by stimulating the use of other more dangerous forms of indulgence.

I am, Sirs, yours faithfully,

March 29th, 1892. W. D. S.

P.S.—I may add that I sympathise with all efforts to decrease vice and lessen misery, especially of semi-civilised races. The introduction of the "fire-water" to the races unaccustomed to it is a story of disgrace. On the other hand, I am convinced that the present endeavour to raise a crusade against opium is an example of misguided zeal.

To the Editors of THE LANCET.

SIRS,—At a very crowded meeting at the Society of Arts on Thursday, March 24th, a paper was read by G. Batten, Esq., late of the Bengal Civil Service, with Sir John Strachey, K.C.S.I., formerly Lieut.-Governor of the North-West Provinces and Oudh, in the chair, on "The Opium Question." The reading of this paper was preceded by a remarkable article in *The Times* of March 21st, of two and a half columns, on this subject, the main object of which seemed to be to show that, apart from the question of economic revenue, "the legitimate use of opium in India is determined by two sets of causes—by geographical or climatic necessities, and by needs arising out of the prohibitions of religions, or the temperament of races"; or, in other words, the issues were limited to purely medical and moral lines. The latter we can surely dismiss with the remark that, if there is any force left in the precept to do to others as we would be done by, the obligation devolving on a professedly Christian nation to supply its subjects with an inducement to self-indulgence in lieu of another prohibited by their religious enactments, or to minister to a temperament—alas! already admittedly sensual—by means of a drug, whatever may be said to the contrary, largely taken for sensual purposes, is as baseless as it is immoral.

The medical aspect of the question, however, is one which must be carefully and scientifically discussed; for, if it can be satisfactorily proved that "the general and moderate use of opium" under any conditions imparts to the poor cultivator of India what the writer in *The Times* describes as "an unconscious safeguard" against the endemic diseases of any locality, by far the chief of which is fever (I purposely do not limit the locality to the population of deltaic tracts of land), then the opium question must be discussed apart from all considerations other than those which will enable the peoples of India to resist most successfully that disease (fevers of varied types) which annually carries off numbers out of all proportion to all other diseases put together. For instance, in a population of 44,000,000 in the North-West Provinces and Oudh, the deaths from fevers in 1886 numbered 250,995. This, therefore, is the point round which the battle must now rage, as the withdrawal of the drug said to produce this "unconscious safeguard" is declared by the writer in *The Times* to be "morally indefensible." Opium, therefore, must be viewed, and treated, either as a necessity for health or a luxury for wealth; and perhaps there never was a better opportunity, outside of a purely professional arena, such as that in which I led the discussion at the meeting of the British Medical Association at Bournemouth last year, than was presented at the Society of Arts last Thursday. There were medical men in that splendid hall capable, from the greatest and most varied experience, of discussing the subject to the full, and there were civil administrators in sufficient numbers to witness the combat and test the results; but clearly, quite unexpectedly to all, this crucial point of the question was never even touched upon in the discussion, if we except a few remarks from Sir Lepel Griffin. I must, however, in justice to Sir George Birdwood, state that, owing to the impossibility of giving the numerous applicants to speak an opportunity of being heard, he most generously, on behalf of the Society, undertook to record in the pages of the Society's journal the remarks of those who would have spoken had there been time. We must, therefore, wait till the journal appears to read the views of those present. In the meantime, I feel all must admit the difficulty which the chairman undoubtedly experienced in limiting the time of the speakers; but, as I have said, Sir George Birdwood has done his best to supply any deficiency which might have been complained of from this cause.—Yours truly,

Blackheath, S.E., March 20th, 1892. ROBERT PRINGLE, M D, Brigade Surgeon.

*** Other communications on the above subject are unavoidably held over till next week.—ED. L.

PYRAMIDAL CATARACT.

To the Editors of THE LANCET.

SIRS,—In an abstract of a paper read by Mr. Treacher Collins before the Ophthalmological Society, which appeared in THE LANCET of March 19th, there are a few points upon which I, perhaps, may be permitted to touch, all the more as Mr. Collins has quoted from a paper of mine on the same subject in the last volume of the Ophthalmological Society's reports. It is a great regret to me that I was unable to be present at the reading of Mr. Collins's paper, nor have I the context, but the abstract is a full one. Mr. Collins's work and communication deserve great consideration. He has collected a unique series of cases and presented them with skill. His conclusions are, in the main, similar to those drawn by previous observers in cases of pyramidal cataract following corneal perforation, and, with the exception of his hypothesis in reference to the formation of new capsule, confirm (so far as my memory serves me, for I have mislaid the paper) the observations of Professor Schweigger on a case of pyramidal cataract submitted to him by Dr. Samelson. So far, then, his cases, admirable as they are, give no new insight into this affection; but Mr. Collins touches very debateable ground when he divides his cases arbitrarily into groups and selects the one suited to establish a particular view. This is equally open to other observers, and the chaos that must ensue is obvious. In referring to a paragraph in my paper, "that pyramidal cataracts are found in a majority of cases associated with clear corneæ," Mr. Collins is not logical in challenging the statement on the ground "that a large number of eyes with opaque corneæ have not been examined," because my paper obviously refers to cataracts *in esse*, and not to those *in posse*. I join issue with any observer who demurs to the presence of pyramidal cataracts with clear corneæ, assuming that he accepts, as I do, the usually received examples of anterior polar capsular opacity with prominence more or less marked, for within the last three months I have removed by suction two zonular cataracts with pyramids on the centre of each capsule, both corneæ being cloudless. In each the pyramid, which certainly lay outside the capsule, was carefully detached experimentally before rupturing the capsule, and it sank, a thickened, chalky flake, to the bottom of the anterior chamber—a typical example of dead pupillary membrane.

I am, Sirs, yours truly,

March 28th, 1892. P. H. MULES, Surg., Mid-Cheshire District Eye Hosp.

TUBERCULIN.

A la Direction du LANCET.

TRES-HONORÉS COLLÈGUES,—Je vous prie d'avoir la complaisance d'insérer dans votre journal ce qui suit:

Dans la *Allgemeine Medicinische Central Zeitung* de 20 février nous lisons: "Un médecin suédois, Dr. O. Torstensson à Gothebourg, a reçu à une demande qu'il

avait faite au Professeur Koch, de l'assistent de celui-ci, du Docteur A. Libbertz, la réponse suivante:—'Je suis fâché de n'être pas à même de vous envoyer la soi-disante tuberculine améliorée dont on a parlé dans les journaux. A la vérité, le Professeur Koch s'occupe continuellement à perfectionner son remède, et il croit de ces jours être plus près de son but. Cependant, il est d'avis de ne pas publier la préparation avant qu'elle ait été soumise à une épreuve brillante dans des maladies tuberculeuses. C'est pourquoi il n'est pas permis de s'en servir hors des cliniques du Professeur Koch.'" Le même journal nous mentionne, sous date 12 mars: "Dans les baraques de maladies contagieuses sous la direction du Professeur Koch soixante hommes, trente-six femmes, et six enfants peuvent être admis. A présent environ soixante-dix personnes y sont traitées de la tuberculine améliorée." Nous voyons que M. le Professeur Koch s'occupe encore toujours de recherches pour améliorer, purifier, et perfectionner son soi-disant remède. Donc, il a été de sa part un fait sans doute un peu précipité et prématuré d'avoir préconisé, il y a un an et demi, son procédé comme capable de guérir la tuberculose. Il me semble, cependant, plus à propos d'arrêter d'abord l'existence de ces microbes que de chercher à perfectionner un remède jusqu'ici inutile, sans valeur, et même dangereux, basé sur les qualités de prétendus microbes dont je dois nier l'existence. Qu'il nous montre les bacilles tuberculeux dans ces endroits où jusqu'ici il manque de nous les montrer, et où il doit nous les faire voir en premier lieu—c'est à dire, dans des tubercules en développement, dans des tubercules tout à fait développés, encore frais, crûs, et dans des cavernules qui ne sont pas encore en rapport avec les bronchioles, et de plus dans une disposition et une agrégation conformes à la nature et à l'arrangement des parasites dans des affections vraiment parasitaires—s'il veut que nous ajoutions foi à l'existence de ces microbes et à leur rapport étiologique avec la tuberculose. Car, si les bacilles tuberculeux n'existent pas, comme je prétends, il ne peut pas être question d'un extrait ou d'un produit de ces microbes illusoires.

Agréez, Messieurs, l'assurance de mes sentiments distingués et mes salutations sincères.

Groningue, 23 mars, 1892. H. W. MIDDENDORP.

MEDICO-LEGAL CORONERS.

To the Editors of THE LANCET.

SIRS,—The leading article in THE LANCET of March 19th raises the question "How are suitable medical candidates to be obtained?" To secure this object I would suggest that the appointment as coroner should be competed for, after a course of special training in the various medical and legal subjects required. Competitive examination would be the surest means of securing the best men for such an important post. Coroners' inquests should be presided over and conducted by gentlemen well qualified in law as well as medicine. The course of study should therefore include practical and theoretical training in the requisite subjects appertaining to both professions. A medical coroner without legal knowledge is at a great disadvantage, but a legal coroner without knowledge of medical science is much worse. That coroners' courts should be presided over by gentlemen specially qualified for the purpose would be an extreme source of satisfaction to the medical profession and an additional security to the public. Inquiry into the cause of death is a purely medical investigation, but in the conduct of it legal points arise which a medico-legal coroner would be prepared for. As matters stand at present, verdicts are frequently returned as to the "cause of death" where no medical evidence has been called, and where both coroner and jury make most egregious mistakes. In these cases the jury are, to be sure, entirely dependent on the coroner, and therefore not so much to blame. I have frequently known of verdicts of "Natural causes" &c. being returned where medical evidence was dispensed with, which would have undoubtedly proved that the causes were decidedly "unnatural." Country jurors, as a rule, are not capable of grasping the salient points in medico-legal investigations; it is therefore most important that scientific questions, when they arise, should be explained to them in a concise and lucid form. I think coroners' courts require complete reformation. It seems absurd to expect twelve men, "good and true" as they may be, whose mental development has decidedly suffered from their station in life, to deliberate on scientific matters of which they must be totally ignorant. I do not purpose discussing the mode of reformation, but I think medical facts can only be properly judged of by medical minds.—I am, Sirs, yours truly,

March 23rd, 1892. M.R C.P.I.

*** Our contention has always been that the amount of knowledge of law governing the coroner's functions may easily be acquired by a medical man, whereas, on the other hand, the medical knowledge requisite to conduct an inquiry into the cause of death can only be possessed by one who has received a competent medical training.—ED. L.

FATAL CASE OF INHALATION OF ROBURITE FUMES.

To the Editors of THE LANCET.

SIRS,—I was present at the inquest noted in THE LANCET of March 19th by Dr. Hatton, and venture to think we cannot accept the *ipse dixit* of a coroner's court upon a scientific question. For many years I have had a large number of cases under my care, of both acute and chronic cases of nitro-benzol poisoning, and the symptoms described by Dr. Hatton do not in the least tally with my experience; neither do the post-mortem appearances. In over two hundred cases I have never observed nystagmus, but we are all aware that it is common, irrespective of poisoning, amongst colliers. Indistinctness of vision only occurs in prolonged and very chronic cases. Temperature I have never found over 100°. Cyanosis is common during life, and by German observers said to exist after death, but in the fatal case which I had, paleness of the mucous membranes and body generally was one of the most marked characteristics. The reflexes are usually much enfeebled, and in acute cases lost. Meningitis and encephalitis are not, so far as I have observed, produced by the absorption or inhalation of this vapour; and Professor Paul, in his cross-examination, said that he was unaware that nitro-benzol could produce inflammation of the brain. I have seen men inhale a concentrated atmosphere of nitro- and di-nitro-benzol vapour fifteen minutes at a time, and only suffer temporary inconvenience in consequence. Therefore it seems to me improbable that a fatal case should occur in a healthy man from breathing an atmosphere so slightly tainted with nitro-benzol as the evidence of the court amply proved. I was also present at most of the underground experiments by Professor Dixon and Messrs. Mounsey and Hannah, with the ventilation absolutely stopped during the explosion of roburite cartridges for from twenty to thirty minutes, and felt no inconvenience. It seems to me advisable for medical men to be very careful before attributing fatal results to the use of any explosive used in mines, especially one which, theoretically, is so innocuous in the fumes which it gives rise to, and one which on all occasions, when practically and scientifically tested, has been shown to be harmless.

I am, Sirs, very faithfully yours,

R. PROSSER WHITE, M.D., M.R C.S.,
Hon. Surgeon, Royal Albert Edward Infirmary, Wigan.

March 29th, 1892.

SUBPERITONEAL HYSTERECTOMY.

To the Editors of THE LANCET.

SIRS,—Dr. Heywood Smith, in his interesting article on subperitoneal hysterectomy in THE LANCET of Feb. 20th, 1892, refers to a paper of mine on the same subject. He mentions the chief points of my method—viz., the raising of peritoneal flaps, the separate ligature of the uterine arteries, and the avoidance of the ureters &c.; but he has not, I think, quite grasped their importance, in that he regards them as subsequent in time to the removal of the tumour.

The steps of my method in their order are—(1) abdominal section; (2) separation of adhesions, if present; (3) ligature and division of both broad ligaments; (4) formation of anterior and posterior peritoneal flaps, each incision starting in the lower angle of the peritoneal wound formed by the division of the broad ligament on the one side and ending at the same point on the other; (5) separation of the peritoneal flaps from the uterus on all sides down to the insertion of the cervix uteri into the vagina; (6) seizure and division of the main trunk of the uterine artery of either side, as it lies in the superficial tissues of the exposed cervix uteri; (7) the removal of the tumour and uterus by section of the cervix above the point of ligature of the uterine arteries; (8) suture of peritoneal flaps; (9) complete closure of abdo-

minal wound. The advantages claimed for the method are—(1) after division of the broad ligaments, and until the suture of the peritoneal flaps, all operative procedures are outside the peritoneum, and away from all sources of danger; (2) the operation is practically bloodless; (3) the peritoneal cavity is left closed and clean; (4) the stump is left unbruised by the application of any elastic ligature.

I note that in all three of Dr. Heywood Smith's cases an elastic tourniquet was used, that in two cases he had suppuration, and in the third a hæmatocele, all of which, owing to the excellence of his suture, were extra-peritoneal. In all surgical procedures I take it the first aim is to diminish, as far as possible, the introduction into the wound of noxious elements, be they germs, germ products, or germicides; the second is to injure as little as possible the tissues left behind, for in these tissues the healing process, with its extraordinary tendency to degenerate into inflammation, has to take place. The application of a tourniquet in an amputation of an extremity is attended with but little risk, partly from the facility with which it is properly applied, partly from the strong resisting power of the skin and subcutaneous tissue, and partly from the distance between the point of application and the tissues which have to heal. In the application of a tourniquet to the uterus the exactly opposite obtains, and I think the results will be rendered more perfect and the operation more bloodless by the ligature of the main trunks of the uterine arteries before removing the tumour.

I am, Sirs, yours faithfully,

Cairo, Feb. 23th, 1892. HERBERT MILTON.

WINTER COUGH AND NOSE OBSTRUCTION.

To the Editors of THE LANCET.

SIRS,—The frequency of chronic winter cough, laryngeal catarrh, and cold in the head is unfortunately, in this country, Europe, and America, notorious. I have recently shown from the examination of over 1000 living and 5000 dried skulls that some irregularity of the nasal septum, causing more or less obstruction to nasal respiration, is a constant feature of nine out of every ten persons living in those countries. Facts are steadily accumulating, and the conviction is becoming established with many who are competent to judge "that chronic winter cough, laryngeal catarrh, and post-nasal catarrh, with all their consequences, are in the majority of cases the direct result of breathing unfiltered, cold, and dry air that has not passed through the proper respiratory gate." This proposition can only be refuted by evidence to the contrary, and established by showing that every person suffering from winter cough or laryngeal catarrh, or a great majority of these, has some marked obstruction in the nose. This investigation is now proceeding at several centres, and it is with the object of still further directing attention to the subject that I write this letter, and subscribe myself

Your faithful servant,

MAYO COLLIER, M.S. Lond., F.R.C.S. Eng.

New Cavendish-street, W., March 24th, 1892.

MR. BARFORD AND WELLINGTON COLLEGE.

To the Editors of THE LANCET.

SIRS,—Mr. Barford appeals to me in your columns with respect to three cases of sore-throat which occurred some years ago in my own family, and which were attended by him in the course of private practice. Will you allow me to answer his appeal by one question? If he considered them at the time to be cases of diphtheria, as he now thinks that he did, why did he not advise any quarantine or measures of disinfection? There were three young children in the house, and boys of the school were constantly in and out of it. I am, Sirs, your obedient servant,

Malvern, March 28th, 1892. E. C. WICKHAM.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Queen's Hospital.

THE fifty-first annual meeting of this institution was held on the 28th ult., the president, Lord Leigh, in the chair. It was stated that the report was both gratifying and encouraging. There had been a large increase of patients, the sanitary condition of the hospital was eminently satisfactory, while the nursing scheme had proved to be very valuable and useful. The report further stated that the average residence of in-patients was 21·1 days, while the death-rate was exceptionally low, and the management very complete and well organised. The usual votes of thanks were passed, and the Earl of Dudley was elected president for the ensuing year.

The Ingleby Lectures.

Dr. Foxwell, the Ingleby lecturer for the year, gave the first of a series of lectures at Queen's College on the 29th ult. The subject taken was "The Condition and Treatment of the Vascular System in Chlorosis and other Debilitated States." After sketching the life of the founder and the origin of the lectures, Dr. Foxwell delivered an interesting lecture to an appreciative audience. The practice of living at a pressure beyond the strength of the individual capacity was dwelt upon and the evils pointed out. The errors of pressure in child life, before development is complete, received attention, and condemnation was expressed at the common practice of returning to work too quickly after a severe illness. Two more lectures will complete the series.

The Medical Institute.

The annual report has just been issued and is considered to be satisfactory. The register established last year for the registration of locum tenens, dispensers, and nurses has not been a success owing to the small number of names sent in. The financial statement shows a deficit of £29 8s.; £12 more than last year has been expended in books, and in the course of the year 1216 volumes were issued to 125 borrowers.

Assize Cases.

Two cases of some importance to the public were tried at the local assizes recently, both of which have had considerable local interest. At the Staffordshire assizes John Goodall was sentenced to two years' imprisonment with hard labour for indecently assaulting Mrs. Siddalls in a railway carriage near Tamworth. The points emphasised were the want of separate compartments for ladies travelling alone, of adequate means of communication with the guard in cases of necessity, and of communication with the adjoining compartment. Two medical students who were travelling in the next compartment when the victim fell from the foot-board were the principal witnesses for the prosecution. The second case is still a mystery. A boy was sent with his father's breakfast, never returned, and his body was found, stripped of clothes, in the canal. The two prisoners escaped the more serious charge, but pleaded guilty to stealing the boy's clothes, which they say they fished out of the canal. How the boy came to be without his clothes and how he got into the canal are questions which remain undecided.

March 30th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Strikes and their Effects.

THE effects of the present unfortunate strike of engineers, which has now gone on about seven weeks, are now being very severely felt in Newcastle and district. In Newcastle and Gateshead alone the *Newcastle Chronicle* computes that not fewer than 2000 people are actively engaged in the alleviation of poverty, and the amount contributed for its relief has now reached £200 a day. This does not take into account private benefactions and an immense amount of aid in many ways which is not published. At South Hetton, and many other colliery villages, the people are suffering from a scarcity of water which, it is feared, may lead to much illness before long. This scarcity may be termed entirely artificial—that is, there is abundant water, but the strike leaders refuse to allow any of the hands to work the pumps at the collieries whence the water is supplied; hence, as regards water, their families may be said to be starving in the midst of plenty from this self-imposed "famine." Another matter affecting the sanitary condition of many of the Durham colliery villages is the neglected state of the ashpits and privies. It appears that all cleansing operations are in abeyance owing to the withdrawal of the horses and carters, so that the usual receptacles for dirt and rubbish

are filled and overflowing. This is bad enough in itself, but when taken in conjunction with a scarcity of water is certain ere long to lead to disease. The Weardale Lead Mines have been closed owing to the Durham strike, and the cessation of work is reported to have already caused intense suffering, as many of the inhabitants are already without coals, and are solely dependent on their neighbours for what peats can be obtained. The lead miners of Weardale are a very hard-working class, and at the best of times earn very low wages. The weather, too, in the mountain districts of Durham has become very severe.

Ambulance Work in the North.

The annual meeting and concert of the Elswick Collieries Ambulance Association has been held in Newcastle. Among the miners and others employed at the collieries the greatest interest has been taken in ambulance work, and the men and their families were present in large numbers, requiring one of the largest chapels in Newcastle to accommodate them. The chairman, in the course of his remarks, said that the death-rate in mining was smaller than in many other industries, but in collieries there were a great many minor accidents which it was impossible to avoid. Ambulance students could do a great deal of good by attending to such cases, and at Elswick their success had been very marked. Mr. May, the colliery surgeon, had also been their kind and successful ambulance instructor. Dr. Jack of Rothbury will recommence his course of ambulance instruction shortly. Dr. Robson last week gave a *résumé* of his course, dwelling principally on the circulation of the blood &c. He was at the same time the recipient of a testimonial and presentation from his class.

Anti-Cremation in Darlington.

A meeting in opposition to cremation has been held in Darlington in the Central Hall, and it is reported as being well attended. The usual arguments against cremation were advanced.

Sanitary Lectures.

The first of the course of sanitary lectures under the auspices of the Sanitary Institute and the Newcastle Corporation was given last Saturday in the Guildhall, on Ventilation, Heating, and Lighting, by Dr. Louis C. Parkes. The Sheriff of Newcastle occupied the chair, and there was a numerous attendance, including various members of the Corporation. The course will extend to June next.

Dr. B. W. Richardson in Newcastle.

Dr. B. W. Richardson of London has been lecturing in Newcastle, and on Monday last he gave a special address to medical men of the town and district. Mr. and Mrs. T. H. Bainbridge of Holwood Jesmond provided a breakfast for all medical comers in the Lovaine Hall, and the proceedings were very interesting. Whatever may be thought of Dr. Richardson's views on the alcoholic question, and he did not put them at all in an unreasonable way (from a medical point of view), we all respect him for his work as a physiologist and as a sincere social reformer. The hearty welcome that he received in Newcastle could leave no doubt that we were all glad to see him.

Mr. Thomas Ironsides of Kibblesworth Farm, near Gateshead, who will be 101 years of age on April 12th, recorded his vote for the recent County Council election, and is in good health.

Newcastle-on-Tyne, March 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Aberdeen University.

THE medical "professional" examinations will terminate on Thursday, and the graduation ceremony will take place on Monday. Admission to the graduation hall is on this occasion to be by ticket. There are seventy-eight candidates for the final examination. The University Extension Fund continues to make very satisfactory progress, and the success of the scheme is now ensured by the announcement that the Government will this year vote a grant of £5000 as a first instalment of £40,000. Where and how the buildings are to be extended is still a vexed question. In Monday's *Free Press* Professor Trail begins a long article on the subject by saying: "Three weeks since, through your columns, I ventured to state that no extension of the buildings of the University of Aberdeen at either of the present sites would prove permanently satisfactory; that to render the University what it ought to be in future, and, indeed, must be if its reputation is to be retained, it should be removed to a new site; and that the best possible site would be secured could an exchange be effected of Marischal College for Gordon's College."

Health of Aberdeen.

During the past week the following cases of zymotic diseases were notified to the medical officer of health:—Scarlet fever, 9; diphtheria, 2; typhoid fever, 2; typhus fever, 5; whooping-cough, 55; erysipelas, 1. One death from influenza was recorded during the week.

District Nursing for the Poor.

A public meeting was held on Friday, March 26th, in the Aberdeen Music Hall Buildings, to promote the formation of a District Nursing Association for the poor at their own homes. Lord Provost Stewart was in the chair. It was unanimously "agreed to form an association, to be called the 'Aberdeen District Nursing Association,' and to make application to the Scottish Council for the services of a Queen's nurse and for affiliation" with the Edinburgh Association.

March 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Measles in Dublin.

THIS disease has become almost epidemic in Dublin, and the deaths have been very numerous for the past few weeks. Every effort is made to induce the parents of children who contract this disease to allow them to be brought into hospital; for it is a remarkable fact that not one of the cases of measles treated in hospital in the year 1891 died. Of course this recommendation only applies to the poorer classes. Sir C. A. Cameron, medical officer of health, has prepared a sanitary circular for distribution among the dwellers in tenement houses, which points out what should be done when measles appears, and shows the necessity of having the patients brought to hospital.

Health of Ireland for December Quarter of 1891.

During the December quarter the births numbered 24,681, and the deaths 21,460. The birth-rate was 0·4 under the average rate for the corresponding quarter, and the death-rate 1·9 above the average. The returns of pauperism show a decrease of 564, or 1·3 per cent., in the average number of workhouse inmates on Saturdays during the quarter as compared with the previous year, and a decrease of 1574 in the average number of persons on out-door relief. The increase in the death-rate was due to the widespread prevalence of influenza and inflammatory diseases of the respiratory system. The aged and debilitated were the chief sufferers, as is demonstrated by the extent of the mortality among persons aged sixty years and upwards, the number of deaths (9300) from all causes at that age period during the quarter being 14 per cent. in excess of the average (8152) for the December quarter of the five years 1886–90. Enteric fever was prevalent in Dublin and to a less extent in Belfast, and whooping-cough caused a rather large number of deaths in those cities and in a few other districts, but the rate represented by the aggregate number of deaths from the principal zymotic diseases was below the average for the December quarter, the mortality from some of the diseases in that group having been remarkably low.

The Proposed Abolition of Visiting Physicians of Irish Lunatic Asylums.

The Council of the Irish Medical Association has addressed a letter to the Lord-Lieutenant, submitting that it is very undesirable that an Order of Council should be carried out, which is to the effect that "When any vacancy shall happen in the office of consulting and visiting physician or apothecary in any district asylum, no person shall henceforth be appointed to fill the same." This order, it seems, was founded on the recommendation of the Lunacy Administration Commission, 1891, in favour of the abolition of the visiting physiciancy as relieving the resident medical superintendents of asylums of responsibility, while not affording the assistance which consultants offer to general practitioners, who take the advice of a surgeon, physician, or obstetrician, according to the nature of the case.

The Council of the Irish Medical Association replies that the visiting physician performs duties alien to asylum administration and the treatment of lunacy; and, further, it is urged that as the superintendents generally enter the lunacy service as assistants, they have not had great experience in the general treatment of disease. Again, only in three or four of the twenty-two towns in which district asylums are situated would an ophthalmologist, physician, or obstetrician be available, and consequently, if the rule is carried out in these places, either the superintendent must treat the disease or avail himself of the services of the local practitioner, the office of whom, in the person of the visiting physician, it is now proposed to do away with. Further, it is advisable on all grounds that the control of several hundred persons under coercive discipline and penal restraint should not be vested in one officer. In order to satisfy the suspicions of the public as to disciplinary arrangements of public institutions like asylums, it is well not to remove the only extern officer in daily communication with the inmates, and independent of, and irresponsible for, the official management of the institution.

Belfast Ophthalmic Institution.

From the annual report presented to the subscribers of this charity on March 28th, I find that 1016 eye cases, 298 ear, and 229 throat affections were attended to at the extern department, while 86 cases were admitted into the wards during the past year. An average of 54 cases were seen daily. As usual, a class for clinical instruction was held, and was largely attended; amongst the number there were three lady students. The subscriptions during the year reached £67, and the balance, £54, due to the treasurer at the beginning of the year, was still against them, with the exception of £7. The hospital is now in a satisfactory state of organisation, thoroughly well worked, nothing being left undone that can in any way further the welfare and successful treatment of the patients.

Dr. James Boyd died on March 25th at his residence, Kiltra House, county Wexford, aged seventy-five years. The deceased succumbed from an attack of influenza with complications.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Surgical Intervention in Pulmonary Gangrene.

ON March 15th M. Périer reported the case of a man aged fifty-eight years whom he had treated surgically for gangrene of the lung. The usual antiseptics given by the mouth had been all tried and found wanting, and the following operation was accordingly performed by M. Périer. An incision having been made in the second (left) intestinal space, the lung tissue, still covered by pleura, was seized with a pair of forceps. The pleura and the lung were then successively incised, about two centimetres of lung having to be traversed before the purulent cavity, which had a capacity of sixty cubic centimetres, was reached. The cavity was carefully disinfected, its parietes washed with camphorated naphthol, and finally its drainage guaranteed by two large tubes placed parallel in double-barreled gun fashion. Cutaneous sutures were then inserted on each side of the tubes. The operation was performed on Dec. 25th, 1891, and union was complete on Feb. 9th, 1892, one drainage-tube having been removed on Jan. 10th and the other on Jan. 14th. All cough, expectoration, and morbid physical signs having now disappeared, the patient, who is feeling quite well, may fairly be pronounced cured. In the course of the discussion which ensued, M. Lancereaux stated that he had derived excellent results in these cases from the administration of hyposulphite of sodium in doses of one drachm per diem. But in these days when surgery tends to invade what was formerly considered the exclusive domain of the physician the practice of trusting to internal medication will gradually go out of fashion, and the next generation of practitioners will wonder that no mention of drainage in the treatment of pulmonary gangrene was made in the current edition of such a classical work as Fagge and Pye-Smith's "Practice of Medicine." It is, however, only fair to state that in his article in Quain's Dictionary, Dr. Symes Thompson advocates this operation, which is doubtless destined to become a routine one in this class of cases, unless the bloodless procedure practised by Hewelke, and described by him in a recent number of the *Deutsch. Med. Wochen.*, be found sufficient. Hewelke injects, by means of a syringe armed with a cannula from 5 to 7 centimetres long, 2½ cubic centimetres of a 1 in 200 or 1 in 300 alcoholic solution of menthol. The entrance of the cannula into the gangrenous cavity is revealed by the lessened resistance experienced. The injection promptly excites a fit of coughing, and the patient both tastes and smells the menthol. The expectoration is increased in quantity and often becomes bloody, this latter phenomenon, however, never persisting beyond a few minutes. In two cases of gangrene thus treated recovery took place in three and in six weeks respectively. The method has also been successfully utilised in the treatment of tuberculous cavities.

Monuments to French Medical Celebrities.

Our lively neighbours have of late years been suffering from an acute attack of monument mania. The medical profession can only rejoice when eminent members of our calling are chosen for this particular honour. On the 23rd ult. a commemorative tablet was affixed with much ceremony to the house at Limoges where M. Cruveilhier was born. The inscription runs thus: "Ici est né, le 9 février, 1791, Jean Cruveilhier. Il exerça la médecine dans cette ville, puis fut successivement professeur aux Facultés de Médecine de Montpellier et de Paris. Savant anatomiste et l'un des créateurs de l'anatomie pathologique, décédé le 9 mars, 1874." On Sunday last the bust, executed by Boucher, of the late Professor Damaschino was unveiled in the *salle des actes* of the Paris Faculty. The surplus, amounting to £40, remaining of the fund subscribed towards the expenses of the memorial has been handed over to the Assistance Publique for distribution amongst the most meritorious male and female nurses at the Laennec Hospital, an institution with which the late regretted professor was so intimately connected for many years. The memory of that father of spinal neurology, Duchenne of Boulogne, is at last to be visibly perpetuated by a monument to be very appropriately erected within the precincts of the Salpêtrière. The medical world is sufficiently reminded of the vast service rendered to humanity by Duchenne when the names of diseases wholly or partly unknown before he began his labours are uttered. Locomotor ataxy, glosso-labio pharyngeal paralysis, progressive muscular atrophy, &c.—all these names call up visions of the indefatigable worker who, occupying no official position either at the Faculty or in the Paris hospitals, rummaged out typical cases when and where he could, and reduced into order what was formerly chaos. The Municipal Council of Paris has, on the proposition of Dr. Joffroy, just voted the sum of 100 francs towards the project. Few of your readers will have heard of Théophraste Renaudot, physician to Louis XIII., and yet his claims to renown are considerable enough to justify the erection of his statue in a prominent place in this metropolis. Was he not the founder of journalism, of State pawnshops, and of advertising—the creator of gratuitous out-patient and home medical relief? These are serious titles to human gratitude, and an influential committee, composed of journalists, doctors, deputies, senators, &c., has been formed to further this laudable project. Drs. Gilles de la Tourette and Marcel Baudouin are respectively secretary and assistant secretary to the committee, the sculptor Boucher being entrusted with the execution of the statue.

History of a Forgotten Compress.

At the Société de Chirurgie on March 23rd the following remarkable occurrence was reported by M. Pilate of Orleans. On April 4th, 1890, abdominal section was performed on a woman aged forty-four, for a painful fibromyoma of the uterus. The uterus was removed with considerable difficulty, the pedicle fixed to the abdominal wound, the edges of which were then brought together. In order to protect the neighbouring viscera during the operation a certain number of sponges and gauze compresses—all carefully aseptic ised—were introduced into the abdominal cavity, each compress and sponge being held with a forceps. The same evening vomiting and pain came on, lasted for six days, without any elevation of temperature. A month after the operation the woman was considered cured. In the month of August, however, pain attributed to the presence of gall-stones appeared in the right hypochondrium; this disappeared in a few days. In September there was a renewal of the pains, which now involved the whole of the abdomen, and were accompanied by vomiting and tympanites, without fever. Palpation revealed the presence, in the region formerly occupied by

the uterus, of a series of hard movable nodules, resembling cancerous masses. A re-examination under the microscope of the tumour removed showed that it was a pure fibromyoma. The patient remained in much the same condition for two months, when one day she passed per rectum a gauze compress enveloped in a hard fæcal mass. All the unpleasant symptoms very soon subsided, and the woman has remained well since that event. This curious occurrence demonstrates the importance of counting sponges and compresses used in such operations, and furnishes one more proof of the harmlessness of foreign bodies which have been rendered thoroughly aseptic. The course of events must have been as follows:—The compress, after having lain encysted, must have excited an attack of peritonitis, with perforation of the intestine. That the occurrence of such a *contretemps* is not altogether unknown in the practice of the most careful surgeons is well attested. One operator now uses in abdominal sections fifteen compresses, hemmed in red, the enumeration of which is carefully made on the completion of the operation. A well-known surgeon once left a forci-pressure forceps in the abdominal cavity. The instrument remained in the cavity for eight months, and was then eliminated through an abscess which formed in the umbilical region. Another relates how he once left a sponge in the abdomen, the patient dying of peritonitis three days after the operation. He no longer employs sponges.

March 30th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Reform of German Anatomical Nomenclature.

PROFESSOR WILHELM KRAUSE, who has resigned his professorship at Göttingen, is coming to Berlin to create a uniform anatomical nomenclature. He has undertaken this task at the instance of the Anatomical Society, which has busied itself for five years past with the question, How the confusion in anatomical nomenclature is to be remedied? This question was thoroughly discussed at the third assembly of that Society in 1889. Professor His of Leipsic showed on that occasion how the present multiform anatomical nomenclature had arisen, and how it could be simplified. It was determined that, in the creation of a new nomenclature, regard must be paid not only to descriptive, but also to general and comparative anatomy and to embryology, and that the reform must be based on a complete list of the technical expressions of anatomy, in which all the changes of meaning which each expression has undergone are stated. It was further decided that all that is good in the present nomenclature should be retained, and that expressions containing proper names should not be dropped. Professor His uttered a warning against going too far in the Germanisation of words derived from the Greek and Latin, on the ground that such a change would render mutual understanding between German and foreign anatomists more difficult. A committee was appointed to arrange for and superintend the work, and it was resolved that the work itself should be entrusted to an anatomist of reputation. The members of the committee elected in 1889 are Kölliker, Oskar Hartwig, His, Kollmann, Merkel, Schwalbe, Toldt, Waldeyer, and Karl Bardeleben; and their number was augmented in the following year by the election of Cunningham of Dublin, Lebouc of Ghent, and Romiti of Pisa, in order that due regard may be paid to the necessities of foreign anatomists. The work was entrusted to Professor Wilhelm Krause, who will have to devote several years to it. The expenses will be defrayed by the Anatomical Society and the Universities of Berlin, Vienna, Munich, and Leipsic.

Statistics.

In the week which ended on March 12th 2 persons died in Berlin from typhus fever, 3 from syphilis, 3 from influenza, 4 from puerperal fever, 5 from erysipelas, 5 from scarlatina, 6 from measles, 9 from diarrhœa with vomiting, 11 from whooping-cough, 12 from gastro-intestinal catarrh, 15 from diarrhœa, 24 from senile decrepitude, 29 from cerebral apoplexy, 53 from pneumonia, and 101 from pulmonary phthisis. There were 18 violent deaths, including 10 cases of suicide. Three persons poisoned themselves, and 1 died from delirium tremens. In the same week the death-rate of Dresden was 20·2, of Berlin 20·5, of Hamburg 20·7, of Frankfort-on-the Main 22·4, of Breslau 24·5, and of Munich 29·7. Of the German cities with more than 100,000 inhabitants, Elberfeld had the lowest death-rate (17·4), and Aix-la Chapelle the highest (34·9).

The eminent clinical teacher, Professor Rossbach of Jena, has resigned his professorship.

Professor Albert von Kölliker of Würzburg, the Nestor of German anatomists, celebrated the fiftieth anniversary of his graduation as doctor of medicine last Saturday. His age is seventy-five, but his health and strength are excellent.

March 28th.

THE UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

Protective Legislation for Miners.

DURING the past few years there has been a great loss of life among miners, due to various forms of accident, such as explosions, caving-in of mines, &c. The Pennsylvania Legislature has taken action, and passed a very elaborate and detailed law for the proper management and working of coal mines. The coal-fields are divided into inspection districts, and one inspector is appointed for each by a board of miners and mining engineers. Mine owners are to provide at the collieries an ambulance with stretchers for the purpose of conveying to his home or to a hospital any injured person. No boy under fourteen is allowed to work in a coal mine, and no woman or girl of any age. Boys under twelve cannot be employed in the outside workings. Ventilating currents must be forced along the face of the workings in sufficient volume to sweep away smoke and noxious gases. Inlet and outlet passages are to be separate. Doors must open automatically, and main doors must have an attendant. In mines generating explosive gases all working places must be examined every morning to see if they are safe. Perhaps the most important provision is that requiring two openings from each vein or seam of coal for safe and distinct means of ingress and egress.

Mortality from Influenza.

The New York State Board of Health reports that, of a total mortality of 123,878 during the year 1891, it is estimated that 10,000 deaths are attributable to influenza. These deaths were distributed over the entire State.

A Homicidal Epidemic.

Two or three months since a man called at the office of a wealthy citizen, carrying a grip-sack. He was urgent to see the gentleman, who finally came out to the waiting-room to see his visitor. The stranger gave him a paper to read, which contained a demand for an immense sum of money, under a threat to blow up the building instantly with ten pounds of dynamite, which he alleged to have in his sack. The gentleman attempted to pacify him, meantime withdrawing to his inner office. The visitor followed, threatening, and, as his victim passed through a door, threw the satchel against the wall. A terrific explosion followed. The unknown man was himself blown against a wall, and nothing was left of him but his head, by which he was afterwards identified as an erratic person from Boston. One clerk was blown out of a window into the street, and instantly killed. The gentleman who was assaulted was but slightly affected, though several others in the building were injured. Within a week another gentleman was confronted with a similar demand by a crank who entered his office, and, on refusing, was shot, but not fatally. Soon after one of the most popular clergymen of the city was fired at three times one Sunday as he was entering his house after the morning service, his assailant being a tramp whom he had often befriended. This event was followed by an attempt of an armed crank to gain entrance to the residence of one of the wealthiest men of the city, whose brains, he alleged, he wished to secure that he might also obtain wealth. Another tramp made an attempt on the life of a citizen whose money he demanded, but was arrested before he could do harm. Finally, a popular Jewish rabbi was quite recently shot in the abdomen in his own house by a poor wretch whom he had often aided, because he refused to give him a large sum of money. Fortunately the ball glanced, and did not penetrate the cavity of the peritoneum. These wandering homicides have all proved to be persons who have either previously been in insane asylums or who have been regarded as of unsound mind.

Leprosy in Honolulu.

The chief of the Bureau of Medicine and Surgery of the

Navy has issued a report on the treatment of leprosy in Honolulu, Sandwich Islands, of some importance. The report is based on the investigations of Dr. Lutz of Brazil, an associate of Unna of Hamburg, who was an experienced dermatologist. Salol was his chief remedy. According to his observations leprosy was associated with inflammatory conditions and with febrile excitement always, and salol, acting as an antiphlogistic and febrifuge, stayed the morbid processes. Creasote and gualacol, its active principles, were given in cases where the lungs were affected, with satisfactory results. Antipyrin gave great satisfaction in cases where there was neuralgia. Arsenious acid did not act favourably, contrary to common experience, and antisyphilitic remedies were not clearly beneficial in uncomplicated cases. In external use chrysarobin, or chrysophanic acid, was used, and acted favourably in causing the absorption of tubercles and the disappearance of maculo-nervous and psoriasis-like eruptions. It also improved extensive areas of paræsthesia. Chrysarobin was employed in from 5 to 10 per cent. ointments, or in solution with benzene or chloroform, or similar solvents, covered with elastic collodium. Pyrogallic acid was found to act like chrysarobin, but more slowly, and was only employed on the face and hands to avoid toxic symptoms. Ichthyol is praised as combating inflammatory symptoms, and was used both externally and internally. Cresalol is mentioned as a substitute for salol.

Hospital Sunday Fund at New York.

The collections for hospitals on the Sunday set apart for that purpose have gradually increased, until they now reach the respectable figure of $1000. The basis of distribution is the number of free hospital days in each institution. Thirty-one hospitals received from the Fund, representing 545,855 free hospital days.

Bichloride of Gold Cure for Inebriety.

This method of curing inebriety is gaining in popular favour, notwithstanding the many proofs that it is useless and possibly dangerous. New institutes are being created, to which the wealthy inebriates flock in great numbers. After being subjected to a course of hypodermic injections of the gold, being kept meantime from all intoxicants and liberally fed, they are pronounced permanently cured. Some have been so thoroughly convinced of their immunity that they have maintained a stout resistance to temptation for a considerable period. But such large numbers have entirely failed and have returned to their former habits that it has been demonstrated that there is no virtue in the remedy. Some distrust as to its safety has been created by several sudden deaths in these institutes where the patients are under treatment.

Professor Roberts Bartholow.

Professor Bartholow has recently been committed to an insane asylum. The evidences of mental aberration have been of slow development, and for a considerable period he continued to lecture and write with great vigour. At length the faculty of the medical college was obliged to request his resignation in the midst of his course of lectures. He declined, and was compelled forcibly to leave the college. He subsequently published very interesting papers, which showed no mental decline or aberration. His malady, however, progressed, and his condition became such that his friends had no alternative but to place him in an asylum. Professor Bartholow was an active surgeon in the Civil War, and on his retirement located in Cincinnati in connexion with a medical college. He gained a wide reputation as a writer, especially on therapeutics. He was soon called to the Jefferson Medical College, Philadelphia, where he long occupied the first position in the profession. He was a tireless worker, and is believed to have brought on his trouble by overwork.

New Buildings for the Jefferson Medical College of Philadelphia.

The Board of Trustees and the Faculty of the Jefferson Medical College have just completed the purchase of two large lots on Broad-street, giving them a frontage of about 300 ft. and a depth of 150 ft., upon which they will proceed to erect at once a handsome hospital, lecture hall, and laboratory building. The estimated cost of the buildings is 500,000 dols. The hospital will be built not only as a suitable building in which to care for the sick and injured, but will also be provided with a large amphitheatre for clinical lectures. The basement of the hospital will be given over to the various dispensaries, each of which will be provided with large waiting and physicians' rooms, as well as rooms for direct teaching of students. The buildings will be absolutely fireproof, and provided with patent sprinklers in case their contents catch fire. By the erection of three commodious buildings, the laboratory, where delicate work with the microscope or apparatus is carried on, will be separated from the college hall, where didactic lectures are given, and so will be free from any jarring produced by the movements of large classes. With the hospital on one side affording clinical facilities, and the laboratory on the other side of the college hall for scientific research and training, the college will be most favourably situated for giving thorough instruction in medicine. Further than this, immediately across the street is the Howard Hospital, and on the adjoining corner the Ridgway branch of the Philadelphia Free Library, which contains all the scientific works belonging to this wealthy corporation. The new site is even more favourably situated in regard to the centre of the city than the old one at Tenth and Sansom streets.

March 18th.

[*Corrigendum.*—In the last paragraph of the letter of our New York correspondent, which appeared on the 19th ult., the name "Willand" should have been printed *Willard.*]

Obituary.

SIR WILLIAM BOWMAN, BART., F.R.S.

THE unexpected death of Sir William Bowman, Bart., has removed from the scene a distinguished histologist and physiologist, and a most able surgeon. In the earlier years of his life he was one of the most laborious and careful scientific workers in the profession, and, rising on his merits, became at a later period one of the most successful practitioners in London, commanding for some considerable time an income that was equal to, if it did not surpass, that of any of his compeers. Of slender build and pallid complexion, with delicately cut features, he has shown himself, even at the ripe age to which he attained, to be equal to the strain of a busy life in the metropolis, and can scarcely be said to have quite relinquished practice, though his visits to London were restricted to one or two days a week. He died on Tuesday morning, March 29th, at his residence, Joldwynds, near Dorking. He had been ill only about a week, having caught a chill whilst removing his books and manuscripts from his professional residence in Clifford-street. Congestion of the bases of both lungs was followed by pneumonic patches, and led to gradual exhaustion, from which he died. He was born at Nantwich on July 20th, 1816, and was therefore in his seventy-sixth year. His father, Mr. John Eddowes Bowman, was a distinguished naturalist, and a brother of the same name as the father was for some years a demonstrator in chemistry at King's College, and wrote two most useful works on practical analysis. Sir Wm. Bowman, after his early education at Hazlewood School, Birmingham, became a pupil at the Birmingham General Hospital. He entered the medical department of King's College in October, 1837, and obtained the membership of the Royal College of Surgeons in 1839. He was appointed demonstrator of anatomy in 1839, being junior to Sir John Simon, who is now the only King's College medical teacher of that period now living. He was also the curator of the museum, and it was at this time that he became so pre-eminent as a microscopical observer.

The first important addition he made to scientific knowledge was a paper he communicated to the Royal Society, which appeared in the Philosophical Transactions for 1840, on the Structure of Voluntary Muscle, and this was followed two years later by a second and equally valuable article on the Structure and Use of the Malpighian Bodies of the Kidney, in which he showed clearly the precise relations between these bodies and the uriniferous tubules, a description entirely opposed to Müller's, which was then taught, and he gave a most lucid and exact account of the circulation through that organ. Both papers attracted great attention, partly on account of the novelty and interest of the facts which he detailed and also for the direct bearing that they had on pathology. The best evidence of the excellence of the work they contained

is afforded by the fact that after the lapse of fifty years and the application of many various methods of cutting, injecting, staining, and mounting specimens, very few points of importance have been added to his account either of muscle or of the kidney, and none of his observations have been disproved, though added to by subsequent observers. Both accounts of these organs have become classical, and will constitute the foundation of all future advances. In 1841 he was elected a Fellow of the Royal Society, and in 1842 he was awarded one of the Royal medals. In 1848 he was appointed a professor of physiology at King's College, having in the previous year published the first volume, in conjunction with Dr. Todd, of a work on the Physiological Anatomy and Physiology of Man. The first volume, containing "The Histology of the Tissues: the Muscular and Nervous Systems, with Senses of Touch and Taste," was completed in two years; but the second volume, containing "The Eye and Ear, Digestion, Absorption, Circulation, Respiration, Animal Heat, Voice, and Generation," lingered for eleven years, and would probably never have been finished had the editors not been assisted for the final chapters by Drs. Lionel Beale and Hyde Salter. The work was a great success. It was throughout well and carefully written, and contained a very large quantity of original matter chiefly from the pen of Bowman. It was, moreover, admirably illustrated. He resigned his professorship in 1855. In Todd's Cyclopædia of Anatomy and Physiology, which was produced at intervals between 1836 and 1859, he contributed the articles on Mucous Membrane, Pacinian Bodies, and Muscle, and these are marked by the like thoroughness which characterised his earlier work. At this period of his life (1840) he was elected with Sir John Simon assistant surgeon to King's College Hospital, but he did not obtain the full surgeoncy until 1856. Here he was noted for his diagnostic skill and for the excellence of his operations. He was, it is said, very indisposed to quit the field of general surgery for the more limited subject of ophthalmology, and he would, it is probable, have continued to combine the two had it not been for the remarkable operative ability displayed by his colleague, Sir William Fergusson, and for the great success that attended his own ophthalmic work, which, after the death of Dalrymple, led to almost the whole of the consulting practice of London falling into his hands. And, indeed, he deserved his position, for, carrying into the domain of ophthalmology the aktil that he had previously exhibited in physiology and histology, he applied himself to the study of the eye, and gave the fruits of his inquiries to the profession in his "Lectures on the Parts concerned in the Operations of the Eye and on the Structure of the Retina and Vitreous Humour," which was published in 1849. The book, though small in bulk, contained the results of much careful research, and is still read by every man who pretends to know anything of the literature of this department of the profession. In this, as well as in his other works, his literary style was as good as the intrinsic merit was pronounced; whilst concise, it was always clear. It is not to be regretted that he shunned the labour of writing a complete treatise on diseases of the eye, since his minor papers deal with several of the most difficult and obscure parts of ophthalmic surgery. For example, we find a clear and precise account of the ciliary muscle (tensor choroideæ, Brücke); the structure attachments and functions Bowman accurately described for the first time. These lectures are models of brevity and clearness of detail. In 1851 he read a paper before the Medico-Chirurgical Society, in which he suggested a new method of treatment for cases of epiphora, which was a great improvement on the older plans. It has since become classical, and Bowman's method of slitting up the canaliculus has been performed by every ophthalmic surgeon in these troublesome and obstinate cases. Though not invariably successful, it is certain that in a large proportion of cases the results are good; and even if the simple longitudinal division of the canaliculus is not followed by the free passage of tears into the nose, it yet enables subsequent proceedings to be undertaken with good chance of success. Writing in 1857, six years subsequently, he says, in a paper on Lacrymal Obstructions published in the Ophthalmic Hospital Reports, he had found it possible to treat the greater number of cases mechanically, through the upper or lower canaliculus thus opened at the punctum, by passing probes of suitable size downwards into the nose, thus commanding the entire length of the passages, and not being limited, as by the old method, to occlusion of the nasal duct. He thus avoided the inconveniences of the opening in the skin, then universally practised, and established at the very commencement of the treatment a permanent opening, unseen, and attended by no inconvenience, through which the use of the treatment by probes could at any time be at once resumed in the event of relapse. The method, though widely adopted, has the disadvantage of disturbing or destroying the physiological conditions for the descent of tears into the nose, and the field is still open to the careful student of disease. In 1865 he suggested a modification of the ordinary method of extraction of a cataractous lens adopted at that date, in which iridectomy was performed and the lens lifted out with a spoon or traction instrument; and he also discussed the removal of capsular obstructions, in the course of which he recommended a very serviceable innovation in the treatment, consisting of the introduction of two needles. He also paid great attention to the treatment of detached retina, proposing to relieve or cure the disease by the introduction of needles through the sclerotic—a method which, in his hands, proved in some instances very successful. In yet another paper he discussed the symptoms and treatment of malformed, misplaced, and dislocated lenses, his attention being directed to the point in consequence of the intermittent symptoms of glaucoma that occurred in some of the cases. He contributed to the second volume of the Ophthalmic Hospital Reports another paper on Conical Cornea, a subject of exceptional interest on account of the obscurity attending its etiology and appropriate treatment. He records several cases which were benefited by the operation, that had then been just introduced by the late Mr. Critchett, of iridesis. Subsequently Sir W. Bowman adopted the plan of trephining the apex of the cone. In the paper above referred to is the first observation on the shadow appearing in cases of conical cornea, which has recently developed into the method named "retinoscopy," employed to determine the refraction of the eye.

One of the latest if not the very last literary work he executed was a singularly appreciative and affectionate sketch of the life of Donders, with whom he had long been on terms of intimacy, written as an obituary notice for the Fellows of the Royal Society, and some of our readers will have received with this notice the fine mezzotint which rendered so well the features of the great ophthalmologist of Utrecht. He was elected an honorary Fellow of King's College in 1855, and has served with unvarying regularity on its Council since 1877. He took a lively interest in the institution of the Ophthalmological Society of the United Kingdom, showing his recognition of its importance and value by becoming the first President, and supporting it by liberal contributions every year. Quite recently a testimonial of a portrait of himself by Onless was presented to him by a large circle of admiring friends, from which a beautiful engraving was taken, and given by himself to those who subscribed for the original painting. At the same time it was determined to issue an edition of his collected works, which we believe is just ready to be issued, having been placed in the hands of Professor Burdon Sanderson.

Few men have equalled, fewer still have exceeded, Bowman's manipulative dexterity. With thin, delicate, artistic fingers, absolutely destitute of nervous tremor, and with perfect knowledge of the anatomy of the parts with which he was dealing, he obtained good results where good results were possible; and when failure occurred, as unfortunately happens even with the most dexterous, it was rare indeed that he could reflect on his own method of procedure. Yet he could fully appreciate the difficulties of an operation and enjoy the pleasure of overcoming them, and would speak with undisguised satisfaction of his success in any case of an exceptional nature.

Sir William Bowman was one of those who immediately recognised the value of the ophthalmoscope, and was amongst the very earliest to make himself familiar with the use of this most valuable instrument. His mind was always on the alert to avail himself of advances in any part of his subject. No one more quickly understood and followed out in practice the important conclusions of Donders in regard to errors of refraction and the application of glasses for their rectification. No one adopted earlier the suggestions of v. Graefe for the performance of iridectomy in glaucoma, or was more willing to discard it for eserine in appropriate cases when that remedy was discovered. No one took more interest in the question of colour-blindness when that curious subject attracted far less attention than at the present time. His wide knowledge of general surgery and large experience in ophthalmic diseases made his opinion

on a difficult case of the highest value, and it was accordingly sought, not only by his own countrymen, but by many foreigners, by whom it was held in not less esteem.

Medical News.

UNIVERSITY OF OXFORD.—The Regius Professor of Medicine has given notice that the final examination for the degree of Bachelor of Medicine will commence on Monday, June 6th, at 10 A.M., in the examination schools. The examination for the degree of Master in Surgery will take place on Thursday, June 16th, and the first examination for the degree of Bachelor of Medicine on Thursday, June 23rd, at 10 A.M.

FACTORY LABOUR.—The French Senate has decided that the time of daily labour for women and children in factories shall not exceed eleven hours.

MISSION TO DEEP-SEA FISHERMEN.—The Princess Louise has consented to be present at the annual meeting of the mission in Exeter Hall on the evening of May 16th. Her Royal Highness will distribute the certificates of the St. John Ambulance Association for first aid to the injured to several of the skippers and mates of the society's medical mission smacks.

THE METROPOLITAN WATER-SUPPLY COMMISSION. A meeting of the Royal Commission on Metropolitan Water-supply was held on Wednesday at the offices of the Board of Trade. There were present Lord Balfour of Burleigh (chairman), Sir G. B. Bruce, Professor James Dewar, Mr. G. H. Hill, Mr. J. Mansergh, Dr. W. Ogle, and the secretary, Mr. F. Gaskell. The question of procedure was further considered, and the means to be adopted for obtaining the information necessary for the purposes of the inquiry. The Commission will meet again next Wednesday.

HOSPITAL FOR EPILEPSY AND PARALYSIS.—Mr. E. Boulnois, M.P., in presiding at the annual meeting of this charity in Regent's Park, held on March 24th, said that from statistics for 1890 which the secretary had placed in his hands he found that the London hospitals supplied 8094 beds, of which 6143 were in daily occupation, and 7800 in and 1,158,000 out-patients had been treated, at a cost of £606,000. Yet the receipts of the hospitals had only reached £522,000. Mr. Pearce Gould, one of the surgeons, said that a new building, sooner or later, was an absolute necessity, and that the committee should lose no time in raising the £20,000 required as a building and furnishing fund, whether the occupancy of the present premises was to end in nine or ten years or not.

NORTH LONDON CONSUMPTION HOSPITAL.—This institution continues to make steady progress. The annual report for 1891 states that the income for the year was quite up to the average. The in-patients during the year had been 381; the out-patients numbered 2810, of whom 745 were treated at Hampstead and the remainder at the out-patients' department. The committee had succeeded in securing premises in Fitzroy-square for an out-patients' department and offices, the need of which had long been felt. The extension of the building at Hampstead was now being carried out. Sufficient funds were forthcoming to warrant the committee in commencing the erection of the central block of the building, which would provide for thirty extra patients and other necessary accommodation.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.—Last week the Lord Chancellor occupied the chair at the annual festival, held at the Hôtel Métropole. A large and influential company attended. Lord Halsbury, in proposing the toast "Prosperity to the Hospital for Sick Children," stated that it was the fortieth anniversary of the institution. In the past year 1247 in- and 20,112 out-patients had been treated. It was imperatively necessary that the wards should be enlarged, and the new building which was projected would be of the utmost service to the suffering poor. Its progress hitherto had suffered by what he would term the discussions between capital and labour. They only wanted £10,000, and he hoped it was not too much to expect that in such a cause the amount would be readily subscribed. The secretary announced subscriptions and donations to the amount of £4500.

PRESENTATION.—Mr. G. H. Butler, L.R.C.P.Irel., L.R.C.S. Edin., of Whitechurch, Hampshire, has been presented, on his leaving, after a residence of nearly seven years, by the inhabitants of the town and neighbourhood, with a testimonial, which consists of an illuminated address accompanied by a purse containing £60.

PREVENTION OF CRUELTY TO CHILDREN.—The Marchioness of Salisbury opened last week a new wing of Shelter at Harpur-street, Bloomsbury, in connexion with the work carried on by the National Society for the Prevention of Cruelty to Children. There are now three houses in that street occupied for the work, one house being utilised for offices and the other two for the accommodation of children, fifty of whom live on the premises.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.—At a meeting of the Council held at their rooms, 3, Bolt court, Fleet-street, on March 29th, it was resolved that a communication be addressed to Sir Walter Foster, M.P., and Dr. Farquharson, M.P., asking for their assistance to obtain an insertion of a clause in the "Coroners Act Amendment Bill" now before Parliament, declaring that workhouses are not meant to be included in medical institutions referred to in Clause 22, Subsection 2, of the Coroners Act, 1887.

UNIVERSITY COLLEGE HOSPITAL.—Dr. C. J. Hare presided at the annual meeting held last week. The chairman remarked that, though the expenses had not been covered, the report on the whole was satisfactory. The influenza epidemic had severely taxed the resources of the hospital. The increase in the number of in-patients was 512, and of out-patients and casualties, 3099. Referring to the need of rebuilding and enlarging the hospital, the report stated that a fund already existed for that purpose, and amounted to £13,000 towards the £30,000, the estimated outlay. The receipts for the year were £20,219 4s., while the expenses amounted to £23,344. The report was adopted.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on March 29th, 1892.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total	
Eastern Hospital	200*	57	..	20	..	277	442
North-Western Hospital	183	49	..	11	3	246	411
Western ..	104	20	..	3	2	129	224
South-Western ..	194	30	..	11	..	244	350
South-Eastern ..	207*	15	..	23	2	243	424
Northern ..	301	25	..	7	..	333	480
Totals	1185	206	..	75	7	1472	2331

* Infant and mother.

SMALL-POX.—*Atlas* hospital ship, 40.

MEDICAL NOTES IN PARLIAMENT.

The Influenza and School Attendance.

IN the House of Commons, on Thursday last, in answer to Sir J. M'Kenna, Mr. Jackson said: As I stated, in reply to the hon. and learned member for North Longford on February 26th, the Commissioners of National Education in Ireland invariably allow in all cases in which the school attendance is reduced owing to severe weather, prevalence of epidemic, or other exceptional cause, a reasonable time for the re-establishment of the normal average before proceeding to cancel the grant for an assistant.

Destructors in London.

Mr. Ritchie, answering Mr. Pickersgill, said that a clause was included in the Public Health (London) Act of last Session to provide a remedy in cases where premises are used by a sanitary authority for the treatment or disposal of house refuse in such a way as to be a nuisance or dangerous or injurious to health. In any such case proceedings for ensuring the abatement of the nuisance might be instituted by the County Council or any sanitary authority or person aggrieved.

Dublin Barracks Improvement Bill.

On Friday this Bill was read a second time, and referred to a Select Committee.

Alleged Medical Irregularity.

In the House of Commons on Tuesday, March 29th, Mr. Maden asked the Secretary of State for the Home Department whether his attention

had been called to an inquest, held on March 22nd, 1892, at the Islington coroner's court by Dr. G. Danford Thomas, on the body of Susannah Elizabeth Waller, aged seven months, the daughter of Herbert Waller, greengrocer, of 100, Palmerston-road, Finsbury-park; and whether he was aware that a certificate of death was given, signed by D. H. Dyte, L.R.C.P. Lond., M.R.C.S. Eng., and L.S.A. Lond., of 43, Poole's-park, who, it was proved, had not seen the deceased before her death; if so, what course of action the right hon. gentleman proposed to take.—Mr. Matthews: Yes, sir, I have received a report on this case from the coroner. The facts are correctly stated in the question. The coroner informs me that he has communicated with the Registrar-General in order that such legal action may be taken by that official as under the circumstances he may deem advisable. I may add that I have received a letter from Mr. Dyte, admitting that he had not personally seen the deceased, and expressing his deep regret for what had happened; but explaining that the child had been regularly attended by his assistant, who reported to him from time to time, and that he was only prevented from attending personally by severe injuries under which he was suffering at the time.

Water Bills in Parliament.

The Board of Trade have published their report on the Birmingham Corporation Water Bill, expressing the opinion that insufficient provision is made in the measure for the protection of the fishery interests of the river Wye. They purpose that the Bill should be amended in that and in some other respects. The Board also show themselves hostile to the works proposed in connexion with the Swansea Corporation Water Bill.

Coroners in Boroughs.

Sir A. Rollit obtained leave on Wednesday last to bring in a Bill to amend the law in relation to the appointment of coroners in boroughs, and it was read a first time.

Metropolitan Smoke Nuisance.

In the House of Lords, on Thursday, March 31st, on the motion to go into Committee on the Smoke Nuisance (Metropolis) Bill, Viscount Middleton thought the machinery would not work smoothly. The Marquis of Salisbury did not oppose the motion. The evil was great, and it would be an extreme step to ask the House to refuse a Committee stage. The motion was agreed to, and the Bill was considered in Committee.

University Education in London.

In the House of Commons on Thursday Mr. Bartley and Sir Albert Rollit addressed questions to the First Lord of the Treasury with reference to the proposed Royal Commission on University Education in London.—Mr. Balfour asked his hon. friends to repeat their questions on Monday, when he hoped to be able to give a full and complete statement on the subject.

Enteric Fever at St. John's Wood Barracks.

Mr. William Lowther asked the Secretary of State for War whether there had been any cases of typhoid fever amongst the officers at the St. John's Wood Barracks within the last three weeks.—Mr. Stanhope, in reply, said he regretted that Second Lieutenant Lord Sudley was reported on March 12th as sick of enteric fever. There did not appear to be any evidence that it was contracted in the barracks, and he was glad to say that the case was progressing favourably. These barracks had been recently carefully examined, and no insanitary conditions had been found.

Cork District Lunatic Asylum.

Dr. Tanner asked the Chief Secretary to the Lord-Lieutenant of Ireland if he would explain why the Board of Control in Dublin had objected to medical students visiting the Eglinton or Cork District Lunatic Asylum for the purpose of obtaining clinical instruction?—Mr. Jackson replied that neither the Board of Control nor the Board of Governors had interfered in any way with the visits of the medical students to the Cork District Lunatic Asylum. He had received information from the Resident Medical Superintendent of the Asylum, who said that no action had been taken to prevent students visiting the asylum. In fact, he said, he had only just finished his three months' course of instruction to the students.

Infectious Disease on Board Ships.

In reply to Dr. Tanner, who asked whether any, and, if so, what, regulations were in force with regard to cases of infectious disease rejected and sent ashore from emigrant and passenger vessels, after the inspection by the Medical Inspectors to the Board of Trade, of passengers by outward bound ships, Sir Michael Hicks Beach said that the matter was one rather for the local sanitary authorities under the Public Health Act, 1875, than for the Board of Trade. The Board's medical inspectors reported to the local authorities whenever (as in London, for instance) these authorities asked them to coöperate by doing so, and he had directed that they should in future report, whether requested or not. He understood that no complaint had in recent years reached the Board of Trade of any outbreaks of disease having occurred under the circumstances stated by the honourable member.

The Islington Health Officership.

Dr. Farquharson asked the President of the Local Government Board whether he was aware that the Islington Vestry had, contrary to its own by-law, appointed Dr. Wynn Westcott to the office of medical officer of health, Dr. Westcott having been, until March 2nd, a member of the vestry and of the public health committee; whether this appointment was made without previous advertisement, and against the votes of many members of the Board, including the chairman of the public health committee; and whether he will cause inquiry to be made before confirming the appointment.—Mr. Ritchie said he understood that the Vestry of the Parish of Islington had appointed Dr. Westcott as medical officer of health as a temporary arrangement for six months, and that he was a member of the vestry and of the public health committee of the parish until the 20th of February last, when he sent in his resignation. The by-laws of the vestry provided that no person should be eligible for election to any paid office under the vestry who was a vestryman within six months next before the election; but this by-law, it appeared, was suspended under another by-law, which allowed of such suspension if two-thirds of the vestrymen present voted for it. The appointment was made without previous advertisement, and forty-five members voted in favour of it and twenty-two (including the chairman of the public health committee) against it. He was in communication with the vestry in reference to the proposal to make an appointment for six months.

BOOKS ETC. RECEIVED.

ALLEN & Co., Waterloo-place, London.
Health Springs of Germany and Austria. By F. O. Buckland, M.D. Oxon. Second Edition. 1892. pp. 132.

BAILLIÈRE, J. B., ET FILS, Paris.
Formulaire des Médicaments Nouveaux et des Médications Nouvelles. Par H. Bocquillon-Limousin. Avec une Introduction par H. Huchard. Third Edition. 1892. pp. 322.
La Pratique de l'Antisepsie dans les Maladies Contagieuses. Par Dr. C. Burlureaux. 1892. pp. 276.

F. A. DAVIS COMPANY, Philadelphia and London.
Bacteriological Diagnosis: Tabular Aids for Use in Practical Work. By Jas. Eisenberg, PH.D., M.D., Vienna. Translated from the Second German Edition by N. H. Pierce, M.D. 1892. pp. 184. Price 8s. 6d.

KEGAN PAUL, TRENCH, TRÜBNER, & Co., London.
The Rationale of Mesmerism. By A. P. Sinnett. 1892. pp. 163.

MURRAY, JOHN, Albemarle-street, London.
Travels amongst the Great Andes of the Equator. By E. Whymper. With Maps and Illustrations. 1892. pp. 456. Also Supplementary Appendix. Illustrated. pp. 147.

SMITH, ELDER, & Co., London.
A Practical Treatise on Fractures and Dislocations. By F. H. Hamilton, A.B., A.M., M.D., LL.D. Revised and edited by Stephen Smith, A.M., M.D. Illustrated. Eighth Edition. 1891. pp. 849.
Transactions of the Pathological Society of London. Vol. XLII. Comprising the Report of the Proceedings for the Session 1890—91. pp. 499.

SWAN SONNENSCHEIN & Co., London.
Illegitimacy and the Influence of Seasons upon Conduct. By Albert Leffingwell, M.D. With Maps and Diagrams. 1892. pp. 160.

WOOD & COMPANY, New York.
Practical Midwifery: a Handbook of Treatment. By Edward Reynolds, M.D. Illustrated. 1892. pp. 421.

Willing's (late May's) British and Irish Press Guide, 1892; nineteenth annual issue (J. Willing, jun., 162, Piccadilly, London); price 1s.—Abdominal and Uterine Tolerance in Pregnant Women; by R. P. Harris, A.M., M.D., Philadelphia (Wm. J. Dornan, Philadelphia, 1892).—Transactions of the American Otological Society; twenty-fourth annual meeting, Washington, September, 1891. Vol. V., Part I. (Mercury Publishing Company, New Bedford, Mass., 1892).—Lessons from Fields and Lanes: a Field Companion for the Botanical Student; by G. A. Grierson, F.L.S. (W. Bleasdale & Co., Colliergate, York, 1892); price 1s.—Resultados Experimentales y Clínicos de las Presiones Transversales de la Pélvis; por el Dr. D. E. Arellza (Madrid, 1891).—De las Fracturas del Cráneo y de la Trepanacion; por el Dr. D. E. de Arellza (Barcelona, 1887).—An Address upon the late Joseph Leidy, M.D., LL.D.: his University Career, Pennsylvania; by William Hunt, M.D. (Collins' Printing House, Philadelphia, 1892).—A Portrait Gallery of Our Celebrities. No. 44, Vol. IV., Part II., 1892 (Sampson Low, Marston, & Co., London); price 2s. 6d.—The History of the "Bath Herald," from 1792 to its Centenary, 1892 (W. & E. Lewis, Bath).—Hypnotism Simplified and Explained; by Joseph Darby. Part I. (Simpkin, Marshall, & Co., London); price 1s.—Premiers Secours en cas d'Accidents ou de Maladies à Invasion Subite; par Dr. A. Léon (G. Gounouilhou, Bordeaux, 1892); prix 1 fr.—How to Use the Aneroid Barometer; by E. Whymper (J. Murray, London, 1891).—How to Prevent Fogs in London; by Professor Colwell (East Norfolk Printing Company, Great Yarmouth); price 6d.—Fifty-two Years' Medical Work in Jerusalem (London Society for Promoting Christianity among the Jews, Lincoln's-inn-fields, London).—Substitutes for the Opium Revenue; by J. G. Alexander, LL.B. Second Edition (P. S. King & Son, Westminster, S.W., 1892); price 6d.—The Opium Trade as affecting British Commerce with China; by David McLaren, Esq., J.P. (P. S. King & Son, Westminster, S.W.); price 2d.—Nouvelles Études concernant les Bacilles Tuberculeux; par H. W. Middendorp (J. B. Baillière et Fils, Paris, 1891).—Le Remède de Koch, sa Valeur contre la Tuberculose; par Dr. H. W. Middendorp (J. B. Baillière et Fils, Paris, 1891).—Recherches Expérimentales sur le Philothion; par Dr. J. de Rey-Pailhade (G. Masson, Paris, 1891).—Rôle du Philothion dans l'Absorption du Soufre pris par la Voie Gastro-intestinale par Dr. J. de Rey-Pailhade (G. Masson, Paris, 1891).—The Engineering Magazine, Vol. II., January, 1892 (Engineering Magazine Office, New York, U.S.A.).—The Mutter Lectures on Surgical Pathology; by Roswell Park, A.M., M.D.; reprint (J. H. Chambers & Co., St. Louis' 1892).—The Barbadoes Medical Annual and Hospital Reports; edited by T. Law Gaskin, L.R.C.P. Edin., M.R.C.S., and J. Hutson, B.A., M.B., C.M. (Wesleyan Publishing Company, Bridgetown, Barbadoes, 1891); price 5s.—Shelley & Co.'s Complete Press Directory for 1892; Sixth Edition (Shelley & Co., Gracechurch-street, London); price 1s.—Transactions of the Medical and Chirurgical Faculty of the State of Maryland; ninety-third annual session, held at Baltimore, April, 1891 (Griffin, Curley, & Co., Baltimore).—Is my House Healthy? how to find out; by J. Spottiswoode Cameron, M.D., B.Sc. Edin. (Richard Jackson, Leeds, and Simpkin, Marshall, & Co., London, 1892); price 1s.—Aphasia; by Chas. K. Mills, M.D. Philadelphia (reprint, 1891).—Souvenir of Shakespeare's Historical Play, King Henry the Eighth ("Black and White" Publishing Company, London).—Magazines for April: Sunday at Home, Leisure Hour, Boy's Own Paper, Boys Out-door Games and Recreations, Girl's Own Paper, Girl's Own Out-door Book (Religious Tract Society).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BEESLEY, A. J., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of the Infirmary, West Derby Union.

BEHRENDT, M. R. J., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Scunthorpe Urban Sanitary District.

BENNETT, VIVIAN BOASE, M.B. (Lond. Univ.), has been appointed Assistant Medical Officer to the Walton Workhouse Hospital.

BINGLEY, ERNEST HORSFORD, L.S.A. Lond., has been appointed House Surgeon to the Chichester Infirmary, vice S. B. De Butts, resigned.

CHALLENOR, H. S., M.R.C.S., has been appointed Medical Officer for the Second and Fourth Sanitary Districts of the Abingdon Union, vice Dixon, resigned.

COLLIE, ROBERT J., M.D., C.M. Aberd., has been appointed Divisional Surgeon to the New Station of the P Division of the Metropolitan Police at Catford.

CONNOR, F. G., M.B., C.M. Edin., has been appointed Medical Officer to the Lismore Hospital, New South Wales.

CRUISE, J. E. W., M.B., B.Ch. Irel., has been appointed Resident Medical Officer of the Grafton-street Hospital, Liverpool.

DEAN, H. P., F.R.C.S., has been appointed Assistant Surgeon to the London Hospital, Whitechapel.

D'EVELYN, ALEX. McN., B.A., M.D. Univ. Dub., has been appointed Certifying Factory Surgeon for the Ballymena District, vice Abraham Kidd, M.D., deceased.

EDGINTON, R. W., M.D. Brux., M.R.C.S., has been appointed a Certifying Surgeon under the Factories Act, vice Carter, resigned.

ELLIOTT, R. H., M.B., B.Ch. Irel., has been appointed Resident Medical Officer of the Netherfield-road Hospital, Liverpool.

FORBES, ARMITAGE, L.R.C.P. Edin., L.R.C.S. Irel., has been appointed Government Medical Officer and Vaccinator for the District of Wardell, New South Wales.

GLOVER, L. G., M.B., B.C. Cantab., has been appointed House Physician to the Royal Hospital for Diseases of the Chest, City-road.

GOODALL, J. K., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Whittington Urban Sanitary District.

GRANT, DUNDAS, M.A., M.D., F.R.C.S. Eng., has been appointed Surgeon for the Throat and Ear to the West-End Hospital for Nervous Diseases.

HOLT, H. M., L.S.A., has been appointed Medical Officer for the Leavening Sanitary District of the Malton Union.

JAMES, W. E., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of Health to the Newport Union Sanitary Authority.

JAMESON, G. B., M.B., C.M. Edin., has been appointed House Surgeon to the Central London Ophthalmic Hospital, Gray's-inn-road.

JENKINS, E. J., M.D. Oxon., M.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer of the Sydney Hospital, New South Wales, vice Pickburn, resigned.

MELLER, CHAS. BOOTH, L.R.C.P., M.R.C.S., L.S.A., L.M., has been reappointed Medical Officer of Health for the Eastern District of the Bridgend and Cowbridge Rural Sanitary Authority, and District Medical Officer and Public Vaccinator for the Bonvilstone District of the Cardiff Union.

MILLS, Y. HUBERT, F.R.C.S., M.B., has been appointed Surgical Registrar to the London Hospital, Whitechapel, vice H. P. Dean.

MITCHELL, J. T., M.D., C.M. Aberd., M.R.C.S., has been appointed Honorary Medical Officer to the Local Benevolent Asylum, Victoria, South Australia, vice Usher, resigned.

MORRISON, ALEX. THOMSON, M.B., B.Ch., B.A.O. (R.U.I.), has been appointed Medical Officer and Public Vaccinator for the Waddesdon District of the Aylesbury Union.

MURRAY, H. B., L.A.H. Dubl., has been appointed Medical Officer of the Parkes Hospital, Sydney, New South Wales.

NICOLSON, JOHN, M.D. Edin., M.R.C.S., has been appointed Public Analyst for the Shire of Benalla, Victoria, South Australia.

NOYES, A. W. F., L.R.C.P. Lond., M.R.C.S., has been appointed Specialist for Diseases of the Skin at the Alfred Hospital, Victoria, South Australia.

POULTON, BENJAMIN, M.R.C.S., has been appointed Lecturer on Surgery at the University of Adelaide, South Australia.

RICHARDS, J. S., M.D., B.S., has been appointed Resident Medical Officer to the Royal Hospital for Children and Women, Waterloo-bridge-road, vice J. M. Thorne, M.R.C.S., resigned.

SIMPSON, ALEXANDER, M.A., M.B., C.M. Aberd., has been appointed Second Assistant Medical Officer to the Lancashire County Asylum, Whittingham, Preston.

SINCLAIR, WALTER W., M.B., C.M. Aberd., has been appointed Junior House Surgeon to the Birmingham and Midland Eye Hospital, Birmingham.

SYMPSON, E. MANSEL, M.D., B.C. Cantab., M.R.C.S., has been appointed Surgeon to the Lincoln County Hospital.

WALLIS, F. C., M.B., B.S. Cantab., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Metropolitan Hospital.

WESTCOTT, W. W., M.B. Lond., M.R.C.S., has been appointed, *pro tem.*, Medical Officer of Health for Islington, vice Tidy, deceased.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

ASTON UNION.—Resident Medical Officer at the Workhouse, Erdington, near Birmingham. Salary £100 per annum, with furnished apartments, rations, washing, &c. (Apply at the Union Offices, Vauxhall-road, Birmingham.)

BIRMINGHAM CITY ASYLUM, Rubery-hill, Bromsgrove. — Clinical Assistant. Board, lodging, and washing provided.

BOARD OF WORKS, St. Giles' District.—Analyst. Salary £100 a year, including all expenses. (Apply to Mr. Jones, Offices, 107, High Holborn, W.C.)

BOURNEMOUTH FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Junior Medical Officer (out-door). (Apply to Secretary, 59, Old Christ-church-road, Bournemouth.)

CAPE COPPER COMPANY.—Chief Surgeon for the works at the Cape of Good Hope. Salary £400, free residence (not rations), free passage. (Apply, by letter only, to the Secretary, Cape Copper Company, 9, Queen street-place, E.C.)

CLAYTON HOSPITAL AND WAKEFIELD DISPENSARY, Wakefield.—House Surgeon (Senior). Salary £90 per annum, with board, lodging, and washing.

CUMBERLAND INFIRMARY, Carlisle.—House Surgeon for one year. Salary £70 per annum, with board, lodging, and washing.

DERBYSHIRE ROYAL INFIRMARY.—Resident Assistant House Surgeon for six months. Salary £10 for the six months. Separate apartments, board, and washing provided.

GENERAL DISPENSARY, Nottingham. — Resident Clinical Assistant. Salary £60 for six months, with rooms and attendance.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL, Hastings — House Surgeon. Salary £75 per annum, with board and residence in the hospital.

HAVERSTOCK-HILL AND MALDEN-ROAD PROVIDENT DISPENSARY, 132, Malden-road, N.W.—Medical Officer.

HULME DISPENSARY, Manchester.—House Surgeon. Salary £140 per annum, with apartments, attendance, coal, and gas.

MANCHESTER ROYAL INFIRMARY, DISPENSARY, AND LUNATIC HOSPITAL OR ASYLUM.—Honorary Assistant Physician.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL.—Resident House Surgeon. Honorarium at the rate of £75 per annum.

METROPOLITAN HOSPITAL, Kingsland-road.—House Physician, House Surgeon, and Assistant House Surgeon, for six months. In addition to board and laundry expenses, the House Physician and House Surgeon will each receive a salary at the rate of £60 per annum.

NORTH RIDING ASYLUM, Clifton, York.—Second Assistant Medical Officer. Salary £100 a year. Board, apartments, washing, and attendance.

NOTTINGHAM BOROUGH ASYLUM.—Assistant Medical Officer. Salary £125 per annum, with apartments, board, and washing.

PADDINGTON-GREEN CHILDREN'S HOSPITAL, London.—House Surgeon for six months. Salary at the rate of £55 5s. per annum, with board and residence.

ROTHERHAM HOSPITAL.—Assistant House Surgeon for six months. Rooms, commons (exclusive of alcoholic drinks), and washing will be provided.

SEAMEN'S HOSPITAL SOCIETY, Greenwich.—Visiting Physician for the Branch Hospital in the Royal Victoria and Albert Docks.

SEAMEN'S HOSPITAL SOCIETY, Greenwich.—Visiting Ophthalmic Surgeon.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Honorary Assistant House Surgeon.

SUSSEX COUNTY ASYLUM, Hayward's-heath.—Junior Assistant Medical Officer. Salary £100 a year, with board, lodging, and washing.

TEIGNMOUTH, DAWLISH, AND NEWTON INFIRMARY, DISPENSARY, AND CONVALESCENT HOME.—House Surgeon (to act also as Secretary). Salary £40, with board, lodging, and washing.

THE RETREAT, York.—Junior Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

WANDSWORTH AND CLAPHAM UNION.—Assistant Medical Officer at the Infirmary of the Union. Salary £120 per annum, with apartments, board, and washing. (Apply at the Union Offices, New Wandsworth.)

WEST BROMWICH DISTRICT HOSPITAL.—Assistant House Surgeon. Terms: board, residence, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BALLANCE.—On March 26th, at Harley-street, W., the wife of Charles A. Ballance, M.S., F.R.C.S., of twin daughters.

MATHESON.—On March 28th, at Gibson-square, N., the wife of John Matheson, M.A., M.D., of a son.

MARRIAGES.

BAIRD—BROWN.—On March 23rd, at St. John's Church, Devonport, Andrew Baird, Surgeon-Captain Medical Staff, to Florence Anna, widow of the late Charles J. Brown, of Brentwood, Essex.

HINGSTON—SMITH.—On March 23rd, at Grampound Church, by the Rev. R. Blackmoor, Vicar of Merther, and the Rev. C. H. Vivian, Rector of Creed, Richard Hingston, M.R.C.S. Eng., L.R.C.P. Lond., only son of Andrew Hingston, Surgeon, Liskeard, to Sarah Elizabeth (Bessie), elder daughter of Mr. G. W. Smith, Ventonwyn, Grampound.

SHAW—SPALDING.—On March 29th, at Argyle-square Church, King's-cross, Lauriston Elgie Shaw, M.D., of St. Thomas's-street, S.E., youngest son of Dr. Archibald Shaw, of St. Leonards, to May Howard, the eldest daughter of J. Howard Spalding, Esq., of Ealing.

DEATHS.

ALEXANDER.—On March 21st, at the residence of his son, Bethune-road, Stoke Newington, David Alexander, L.R.C.S. Edin., late of Lochee, Dundee, aged 81.

BOWES.—On March 23rd, at Pau, John Bowes, M.R.C.S., of Richmond, Yorkshire, aged 78.

CLARK.—On March 25th, at Blair Lodge, Minehead, Somerset, Dr. Thomas Clark, aged 53.

MINNS.—On March 25th, at White Hart-street, Thetford, Emily, beloved wife of Allan Minns, L.R.C.P. Lond., aged 32 years.

TOMKINS.—On March 27th, at West Leigh, Leicester, after influenza and pneumonia, Henry Tomkins, M.D. No cards.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, April 4.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

ROYAL INSTITUTION.—5 P.M. General Monthly Meeting.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-sq., W.C.).—8 P.M. Mr. C. S. Tomes: Studies on the Growth of the Jaws. Casual Communications:—Mr. S. J. Hutchinson: A case of Necrosis and Fracture of the Lower Jaw.—Mr. M. Y. Woolf: A Tooth forced into the Antrum, and tolerated in that position for three years.—Mr. A. W. Barrett: The Electric Illumination of the Mouth for suspected Antral Disease.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. J. Knowsley Thornton: Further cases illustrative of Hepatic Surgery.

Tuesday, April 5.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Professor V. Horsley: The Brain.

THE QUEEN'S COLLEGE, BIRMINGHAM.—4 P.M. Dr. Arthur Foxwell: The Condition and Treatment of the Vascular System in Chlorosis and other Debilitated States. (Ingleby Lecture.)

ROYAL COLLEGE OF PHYSICIANS (Examination Hall, Victoria Embankment).—5 P.M. Dr. Pye-Smith: Certain Points in the Etiology of Disease. (Second Lumleian Lecture.)

PATHOLOGICAL SOCIETY OF LONDON.—Mr. F. C. Abbott: Series of Congenital Dislocations of the Radius (four generations).—Mr. J. J. Clarke: (1) Litter of Kittens affected with Talipes and other Congenital Malformations; (2) Human Monster.—Dr. J. Adams: Ileocolic Intussusception from Inverted Meckel's Diverticulum.—Mr. C. B. Lockwood: Polypus of Small Intestine associated with Intussusception.—Dr. G. Barling: Acute Double Tubercular Disease of Testes.—Dr. P. H. Pye Smith: Unusual Distribution of Secondary Cancer.—Mr. E. W. Willett: (1) Aneurysm of the Aorta in a Child; (2) Diphtheritic Membrane on the Stomach of a Child.—Dr. W. Edmunds: Cystic Disease of Kidney.

Wednesday, April 6.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSTITAL.—Operations, 2 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. Leith Napier. Adjourned Discussion on papers on Cæsarean Section by Drs. Leith Napier, John Shaw, and Cullingworth.—Dr. Lewers: Six cases of Craniotomy, with Remarks on the Relative Position of Craniotomy and Cæsarean Section.

Thursday, April 7.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

ROYAL INSTITUTION.—3 P.M. Dr. B. A. Whitelegge: Epidemic Waves.

CHELSEA HOSPITAL FOR WOMEN.—5 P.M. Dr. A. D. Leith Napier: Certain Clinical Relations of Gynæcology to Obstetrics.

ROYAL COLLEGE OF PHYSICIANS (Examination Hall, Victoria Embankment).—5 P.M. Dr. Pye-Smith: Certain Points in the Etiology of Disease. (Third Lumleian Lecture.)

HARVEIAN SOCIETY (Stafford Rooms).—8.30 P.M. Mr. F. W. Parsons: Notes of a case of Chronic Tubercular Phthisis.—Dr. T. Edward Squire: Pulmonary Affections which may lead to Phthisis.

Friday, April 8.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

CLINICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Washbourn and Mr Arbuthnot Lane: Floating Kidney: New Mode of Nephrorrhaphy.—Mr. Littlewood: A case of Traumatic Cyst of the Pancreas successfully treated by Stitching the Cyst Wall to the Abdominal Parietes and Drainage, with an Analysis of the Pancreatic Fluid subsequently collected.—Dr. Hector Mackenzie: A case of Hydatid of Lung which proved fatal by rupture into a bronchus nine hours after Treatment by aspiration.—Mr. Stephen Paget: A case of Abdominal Section followed by Parotitis; recovery.

ROYAL INSTITUTION.—9 P.M. Prof. W. E. Ayrton: Electric Meters, Motors, and Money Matters.

Saturday, April 9.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

ROYAL INSTITUTION.—3 P.M. Prof. J. F. Bridge: Dramatic Music.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 31st, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Mar. 25	30·07	E.	39	38	67	50	37	—	Overcast
,, 26	29·69	S.	43	42	81	60	38	..	Overcast
,, 27	29·71	N.E.	47	46	64	48	43	·11	Overcast
,, 28	29·87	N.E.	35	34	61	40	33	·16	Cloudy
,, 29	30·40	N.E.	35	33	78	42	27	..	Cloudy
,, 30	30·55	N.E.	39	36	87	52	32	..	Bright
,, 31	30·57	N.E.	41	36	89	54	35	..	Hazy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET to be addressed "To the Publisher."

We cannot undertake to return MSS. not used.

"THE ETHICS OF TRUTH IN MEDICINE."

An Honest Doctor.—There is nothing in law or "ethics of truth" to prevent our correspondent adopting any opinions that commend themselves to his own judgment after due consideration. His conclusions may seem so unreasonable to others, who may think it impossible or undesirable to coöperate with him professionally, but there need be no loss of respect on either side. We have to express regret for delay in this reply.

H. G. D.—New River water is usually of excellent quality, and is seldom benefited by domestic filtration. A good filter should remove suspended matter, and above all should secure at the same time intimate contact of the water with an excess of air. Spongy iron, manganous carbon, pure animal charcoal, and kieselguhr are excellent filtering media. As we have often pointed out, coke is one of the best materials, but it requires long and continuous washing.

P. P.—It is something very like it. It is certainly not the ordinary case, condemned and punished repeatedly by the General Medical Council; but it is an approach to it that should not be practised by a registered practitioner.

F. H. R.—Zeitschrift für Hygiene.

EFFECT OF DISEASE ON THE EYELASHES.

To the Editors of THE LANCET.

SIRS,—I have a case in which the eyelashes of the inner half of the upper eyelid have become quite white. The lady having black hair, the effect is very conspicuous. She has not suffered from neuralgia, nor is there any assignable cause. I should be glad if someone having had experience of similar cases will suggest a remedy. I have painted the lashes with nitrate of silver, but without success.

I am, Sirs, yours faithfully,

March 23rd, 1892. A SUBSCRIBER.

"TOUTING" IN HALIFAX.

To the Editors of THE LANCET.

SIRS,—In your issue of March 5th you have a paragraph entitled "Touting with High Sanctions at Cambridge" (p. 365). I should like to draw your attention to a similar but worse example of "touting," but not with what can be considered as "high sanctions," at Halifax. I enclose you a handbill of the Halifax Provident Dispensary, such as is being left at the houses of patients of other medical men. At Cambridge they have at least a wage limit, which, as things go, is a pretty fair one; but at Halifax, as you will see, there is absolutely no wage limit at all. I may add that originally—i.e., at its inception—there were ten medical officers selected to act on the Dispensary staff, but seven of these resigned on the refusal of the committee to adopt a wage limit. The remuneration of the medical gentlemen is about one halfpenny per week per patient—a much smaller rate than a costermonger would expect to receive for his toffee at a stand in the street. A benevolent man giving gratuitous advice to a charitable institution, or relieving the suffering poor without fee or reward, is noble in the extreme; but when a member of our profession offers his services at such a low rate to an object which no one can call a charitable one, it is time that the Colleges interfered to prevent such modes of practice. The hard-working practitioner will then have a chance to make a living and uphold our once noble profession with all due decorum.

I am, Sirs, yours faithfully,

March, 1892. FAIR PLAY.

**** The following is the scale of charges, and this, be it understood without a wage limit. We cannot defend such a system.—ED. L.

Scale of Payments.

	Per week.	Entrance fee.
For any person under 14 years of age	½d.	0s. 6d.
For any person over 14 years of age	1d.	1s. 0d.
For an adult and one child under 14 ..	1½d.	1s. 3d.
For an adult and two children under 14 ..	2d.	1s. 6d.
For an adult and three children under 14 ..	2½d.	1s. 9d.
For a man and his wife	2d.	1s. 6d.
For a man, wife, and one child under 14 ..	2½d.	1s. 9d.
For a man, his wife, and all his children, under 14 years of age	3d.	2s. 6d.

DIABETES FOLLOWING INFLUENZA.

To the Editors of THE LANCET.

SIRS,—As an exceptional sequel of influenza, perhaps you will consider this letter of sufficient interest to publish in your valuable journal.

A young, robust corporal in the Royal Artillery was admitted to hospital on Dec 9th, 1891, suffering from influenza, from which he recovered. But on the eighth day after admission he reported that he passed a large quantity of urine at frequent intervals. The urine was therefore kept by the orderly, and it was discovered that he passed fourteen pints and a half in twenty-four hours, with a specific gravity of 1031. The patient was immediately placed upon a physiological dietary, and ordered pills containing codeia and asafœtida; he was also extra warmly clothed in flannel. At one period of the disease he passed seventeen pints of urine in twenty-four hours, and the specific gravity reached 1038. He gradually improved and gained weight, and was finally discharged from hospital convalescent on March 10th, 1892. He had been taking ordinary diet for a fortnight before he was discharged, and all medicine had been stopped. The etiology of this temporary derangement is obscure. No doubt congestion of both kidneys and hepatic organ simultaneously, due to chill or some subtle poison affecting the nervous system, and so perverting the normal excretions.

I am, Sirs, yours faithfully,

Dover, March 21st, 1892. J. HOYSTED.

CHEAP NOTIFICATION.

To the Editors of THE LANCET.

SIRS,—The Huddersfield Corporation allows only 1s. for certificates of infectious disease. This is according to by-laws of the Corporation passed before the Compulsory Notification Act. This, after paying the postage, leaves only 11d. for the certificate. Is it in the power of the Corporation to make a by-law to compedical men to accept 1s. when 2s. d. is the usual fee? If so, could Corporation exact the same service for a still smaller sum? am, Sirs, yours truly,

Huddersfield, March 17th, 1892. J. W. DRAPER.

**** The medical men should protest, and would have a good case with the fulcrum of the Compulsory Notification Act, which, however, we understand to be not in force in Huddersfield.—ED. L.

ORIGINAL WORK AND GENERAL PRACTICE.

To the Editors of THE LANCET.

SIRS,—Confessedly, there is much room for original work in our profession. Many general practitioners recognising this, with time at their disposal, would be very pleased to enter upon such work, but feel themselves handicapped by their inaccessibility to hospitals where, for most subjects, scientific methods can only be adopted and material for investigation found. A little guidance in the choice of work most suited to men so situated would, I feel sure, be welcomed by many, and to have your suggestions would be very helpful to others and

Yours truly,

Watford, Herts, March 28th, 1892. A MEDICAL PRACTITIONER.

"THE SPREAD OF SMALL-POX."

AN American correspondent questions the accuracy of the statements in the *Echo*, on which we lately commented, as to the spread of small-pox in Philadelphia being due to the landing of an immigrant in 1872. Our correspondent alleges that he lived in Philadelphia at the time, that there had been sporadic cases in the winter of 1869-70, and that there was an epidemic in 1870-71 and 1871-72. We cannot vouch for the statements which our contemporary quoted from the Consular Report of 1890, and which were too consistent with human experience elsewhere. We are obliged to our correspondent—Dr. George H. Clark.

F.R.C.P. (St. Leonards).—The question is not easily answered. There is no body whose duty it is to decide on the comparative conditions of membership of the respective Colleges, and we are not prepared with a short reply to so important a question. Theoretically there should be no territorial distinction between corresponding qualifications.

R. N. will see in THE LANCET of last week an answer to his first question. The reason for the action of the General Council in the case mentioned was fully set out in THE LANCET of Nov. 20th, 1886, p. 902.

Dr. Dockrell.—Our general rule is to follow the wishes of the contributor, so that the information referred to is inserted if supplied in the communication submitted to us, but not otherwise.

Mr. Geo. T. Wilkinson.—Dr. L. Phillips, Medical Institute, Edmund-street, Birmingham.

SMALL-POX AND FOOTBALL.

To the Editors of THE LANCET.

SIRS,—In last week's issue of your valuable journal, at page 775, there appeared an annotation under the above heading. It is therein stated that a certificate was published by the sanitary inspector for this borough to the effect that Batley might be visited without danger of infection. This does not truthfully state the facts. Our inspector was applied to, and he granted a certificate to the secretary of the Batley Football, Cricket, and Athletic Club. This certificate may have been published, but it certainly was not done with the sanction or knowledge of our inspector. The certificate, when it stated that Batley was free from infection, stated the truth; and at the date it was written there was only one infected house in the borough. The adverse criticisms on this certificate which have appeared in your columns and in the public press have been most damaging to the industries of this town. In all conscience we have had a serious epidemic, and as a consequence trade in all branches has severely suffered. But we are now free practically.—I am, Sirs, yours faithfully,

JOHN STEWART, M.B., C.M.
March 28th, 1892. (M.O.H. *pro tem.*)

'A QUESTION OF ETHICS."

To the Editors of THE LANCET.

SIRS,—In reply to "One of the Olden Time," it is only necessary to say that the communications of the medical attendants in the case in question were published in the interests of the patient, and with the full knowledge and approval of those nearest to her and entitled to act for her. Your correspondent has left out of his view the principle of "medical ethics" which forbids bearing false testimony against his brethren, whom he so unjustly accuses in this case of a breach of confidence. I am, Sirs, yours obediently,

March 28th, 1892. ONE OF THE MEDICAL ATTENDANTS.

**** We are certainly of opinion that it is contrary to medical ethics that details of a case should be published in the lay press, with the names and addresses of the medical attendants, even when quoted from a medical journal; but on the occasion referred to we do not see that the medical attendants in question were to blame.—ED. L.

"TREATMENT OF CRACKED LIPS."

To the Editors of THE LANCET.

SIRS,—Ordinary cases of cracked lips may be effectually dealt with by keeping them constantly smeared with "lip salve." The salve best for this purpose is made rather stiff, and without the red colouring matter usually added. The patient must carry a small box always with him, so that the application may be renewed as soon as the lips begin to dry. If there are deep cracks bordered by thickened epithelium, it is sometimes good practice to pare down the hard margins. As a dental surgeon I have seen a vast number of cases, and I can recall few which have not yielded to these simple measures.

I am, Sirs, yours faithfully,

March 26th, 1892. H. S.

To the Editors of THE LANCET.

SIRS,—In reply to "Medicus" in your issue of the 26th ult., I should suggest that, assuming he has tried all the ordinary methods of treatment, he should have recourse to excision of the "crack." This simple operation speedily effects the cure of this often troublesome complaint, and if care is taken not to remove too much of the surrounding tissue, no disfigurement results. The edges of the wound may be brought together by fine horsehair sutures, or, if the operator prefers, a small hare-lip pin may be used.—I am, Sirs, yours faithfully,

March, 1892. M.R.C.S. ENG.

PANCREATIC DIABETES.

ON this subject an important monograph has just been presented to the Accademia dei Lincei of Rome. Its author is Prof. Capparelli, and its title is "Studi sulla Funzione del Pancreas e sul Diabete Pancreatico." A committee of the Academy has been appointed to report upon it.

Mr. W. H. Waterfield.—The question is a legal one, but unless there is something in the contract authorising such a bold procedure on the part of the patient his chance of recovering such charges would, we imagine, be very slight. On the other hand, it seems an untenable rule that messages must be sent before 10 A.M. This could not be enforced in reference to an illness occurring later in the day.

F.R.C.S. would do well to defer settling in the place till after the deceased's practice has been disposed of, and not to compete with the successor by purchase for any of the appointments.

Mr. S. Paget.—Very soon.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Wallace Anderson, Glasgow; Mr. Anderson, Nottingham; Messrs. Arnold and Sons, West Smithfield; Mr. Atkinson, Sheffield; Messrs. Benger and Co., Manchester; Dr. Lionel Beale, London; Messrs. Burgoyne and Co., London; Mr. B. Barnett, Edinburgh; Messrs. Burroughs and Wellcome, London; Dr. Bannister, Barbadoes; Messrs. Boulton and Paul, Norwich; Dr. E. Blake, London; Mr. J. Bates; Mr. Wickham Barnes, London; Mr. Byrne, Cork; Mr. C. Barker, London; Mr. Mayo Collier, London; Messrs. Carwardine, London; Messrs. Christy and Co., London; Mr. G. H. Clark, Philadelphia; Messrs. Cornish Bros., Birmingham; Mr. Clark, Glasgow; Mr. H. Cayley, Netley; Dr. W. Downie, London; Dr. Deeley, Malton; Mrs. Delaforce; Dr. Donkin, London; Mr. Dixey, London; Mr. Ducket, Lavenham; Dr. P. Dunn, London; Mr. Dale, Bishop's Teignton; Mr. Damian, Trinidad; Dr. Easby, Peterborough; Mr. Fisher, Harrow; Messrs. Foster, Brown, and Co., Montreal; Dr. Farquharson, London; Mr. Freyburg, South Kensington; Miss Frith, London; Dr. Gowers, London; Dr. J. Gordon, Aberdeen; Mr. Graham, London; Mr. Gant, Hastings; Mr. Garrard, Uxbridge; Mr. Gassner, Bavaria; Dr. Guttmann, Berlin; Mr. Godfrey, Northampton; Messrs. Greaves and Taylor, Bradford; Dr. Haddow, Birmingham; Mr. J. Hutchinson; Mr. Hegan, Dover; Messrs. Hertz and Collingwood, London; Mr. Harvey, Exeter; Messrs. Hunter and Gordon, Aberdeen; Mr. Hornibrook, London; Dr. Oscar Jennings, Paris; Mr. T. Johnstone, Wivenhoe; Messrs. Krohne and Sesemann, London; Dr. Little, London; Mr. Leech, Norwich; Mr. Laban, West Bromwich; Capt. Lenon, R.N.; Mr. Little, London; Mr. Lawrence-Hamilton, London; Mr. Ling, Saxmundham; Surgeon-Major Lawrie, Hyderabad; Dr. S. Martin, London; Dr. Middendorp, Groningue; Dr. D. F. Matthew, Luton; Mr. H. P. Mules, Bowdon; Prof. McLeod, Calcutta; Dr. J. C. McVail, Glasgow; Dr. Macdonald, Aberdeen; Dr. More Madden, Dublin; Mr. Maclaren, Brighton; Messrs. Newton, Chambers, and Co., Thorncliffe; Dr. T. Oliver; Messrs. Orridge and Co., London; Mr. O'Reilly, London; Mr. S. Paget, London; Dr. R. Pringle London; Mr. Provand, London; Messrs. Parke, Davis, and Co., London; Mr. Parker, London; Mr. Peet, London; Dr. Prendergast, Hanley; Dr. Renton, Edinburgh; Dr. Sympson; Mr. Sturges, Kirby Lonsdale; Mr. Sers, London; Dr. J. Stewart; Mr. Simpson, Hayward's Heath; Mr. Stanley, London; Mr. Sewill, London; Mr. Stenhouse, Glasgow; Mr. Saunders, Philadelphia; Mr. Stilliard, Birmingham; Mr. Sumner, Liverpool; Mr. Saunders, Manchester; Mr. Wickham, Malvern; Mr. Woods, York; Mr. Wilkinson, Cloughton; Mr. Roger Williams, London; Mr. R. P. White, Wigan; Messrs. Wright and Co., Bristol; Mr. Wheeler, Mass., U.S.A.; Messrs. Wright, Dain, and Co., Birmingham; Mr. T. G. Walker, Bristol; Messrs. Whitworth and Stuart, Manchester; Mr. Woodhouse, Manchester; Mr. Roger Williams, London; Mr. Wand, Leicester; Reast's Invigorator Corset Co., Hastings; M.R.C.S.; Medical Superintendent, Notts Borough Asylum; Dubitas; A General Practitioner; Secretary, Cumberland Infirmary; Light; H. S.; W. D. S.; Dr. H., London; Clerk, Aston Union; Medicus, Middlesbrough; M. D. N. W., London; Smithsonian Institution, Washington; Chemist, Chester; Secretary, Derbyshire Royal Infirmary; Mycel, London; *Gaillard's Medical Journal*, New York; Matron, London; Secretary, Bournemouth; Secretary, Hulme Dispensary; Secretary, Clayton Hospital &c., Wakefield; One of the Medical Attendants; A. B. C., London; Yorkshire College, Leeds.

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NEWSPAPERS.—*Colchester Gazette, Sussex Daily News, Le Temps (Paris), Manchester Guardian, Dundee Advertiser, Madras Times, Bradford Observer, Irish Times, Yorkshire Post, Scotsman, Brighton Argus, City Press, Local Government Chronicle, Scottish Leader, Liverpool Daily Post, Reading Mercury, Mining Journal, Insurance Record, Leeds Mercury, Law Journal, Weekly Free Press and Aberdeen Herald, Natal Mercury, Montreal Gazette, Demerara Daily Chronicle, Luton Reporter, Malton Messenger, Bristol Mercury, Freeman's Journal, Windsor and Eton Express, Daily Chronicle (Georgetown, British Guiana), Hertfordshire Mercury, West Middlesex Advertiser, Metropolitan, Hastings News, Brecknock Beacon, Gloucestershire Echo, Worcester Chronicle, Norwood Review, Birmingham Daily Gazette, Tunbridge Wells Free Press, The Newspaper, Weekly Pantagraph (Bloomington, Ill.), Framlingham Weekly News, Birmingham Daily Mail, Windsor and Eton Gazette, Peterborough Advertiser, &c.*, have been received.

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